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The spider genus *Gnaphosa* Latreille, 1804 in the Crimea (Aranei: Gnaphosidae)

Пауки рода *Gnaphosa* Latreille, 1804 Крыма (Aranei: Gnaphosidae)

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KEY WORDS: spiders, *Gnaphosa,* redescriptions, new synonym, new records, ecology, Crimea.

КЛЮЧЕВЫЕ СЛОВА: пауки, *Gnaphosa,* переописания, новый синоним, новые находки, экология, Крым.

ABSTRACT. Six species of the genus *Gnaphosa* are recorded from the Crimea: *G. cumensis* Ponomarjov, 1981, *G. lucifuga* (Walckenaer, 1802), *G. moesta* Thorell, 1875, *G. saurica* Ovtsharenko, Platnick et Song, 1992, *G. taurica* Thorell, 1875 and *G. ukrainica* Ovtsharenko, Platnick et Song, 1992. Three species are recorded from the Crimea for the first time: *G. cumensis, G. saurica* and *G. ukrainica*. A new synonym is established: *G. turkmenica* Ovtsharenko, Platnick et Song, 1992 (♀) is synonymized with *G. ukrainica* Ovtsharenko, Platnick et Song, 1992 (♂). Females of *G. moesta* are described here for the first time (Ovtsharenko *et al*. [1992] described the female of "*G. moesta*" based on specimens of an unknown species from Dnepropetrovsk Region, but not from the Crimea, the type locality of *G. moesta*). The name *G. trebax* Thorell, 1875 is here treated as *nomen dubium*. *G. jucunda* Thorell, 1875 described from the Crimea was not found. The following species were mistakenly identified: *G. alacris* from Italy by Di Franco [1992 (1994)] and Pesarini [2000], *G. moesta* from Dnepropetrovsk Region (Ukraine) and Orenburg Region (Russia) by Ovtsharenko *et al*. [1992] and Tuneva, Esyunin [2002]. All the species found are re-described and illustrated. Their phenology and spatial distribution in the Crimea are discussed. *G. alacris* Simon, 1878 (Pyrenees) and *G. betpaki* Ovtsharenko, Platnick et Song, 1992 (Kazakhstan) are briefly re-described and illustrated based on the type specimens.

РЕЗЮМЕ. В Крыму обнаружено 6 видов рода *Gnaphosa*: *G. cumensis* Ponomarjov, 1981, *G. lucifuga* (Walckenaer, 1802), *G. moesta* Thorell, 1875, *G. saurica* Ovtsharenko, Platnick et Song, 1992, *G. taurica* Thorell, 1875 и *G. ukrainica* Ovtsharenko, Platnick et Song, 1992. Три вида (*G. cumensis, G. saurica, G. ukrainica*) отмечены в Крыму впервые. Установлена новая синонимия: *G. turkmenica* Ovtsharenko, Platnick et Song, 1992 (♀) синонимизирован с *G. ukrainica* Ovtsharenko, Platnick et Song, 1992 (♂). Впервые описаны самки для *G. moesta* (в работе Ovtsharenko *et al*. [1992] описание самки "*G. moesta*" основано на экземплярах какого-то другого вида из Днепропетровской обл. за пределами Крыма, типовой местности *G. moesta*). Название *G. trebax* Thorell, 1875 трактуется как *nomen dubium*. Вид *G. jucunda* Thorell, 1875, описанный из Крыма, нами не найден. Выявлены ошибочные определения: *G. alacris* Simon, 1878 в Италии [Di Franco, 1992 (1994); Pesarini, 2000], *G. moesta* в Днепропетровской обл. Украины [Ovtsharenko *et al.,* 1992] и Оренбургской обл. России [Tuneva, Esyunin, 2002]. Все виды переописаны, снабжены диагнозами и иллюстрированы; описана их фенология и ландшафтное распределение в Крыму. Кратко переописаны и иллюстрированы по типовым экземплярам *G. alacris* Simon, 1878 (Пиренеи) и *G. betpaki* Ovtsharenko, Platnick et Song, 1992 (Казахстан).

Introduction

The genus *Gnaphosa* contains approximately 130 described species and is probably the best-studied gnaphosid genus. The genus has been revised for North America, Europe and North Asia [Platnick, Shadab, 1975; Grimm, 1985; Ovtsharenko *et al*., 1992; Platnick, 2004]. The Crimean Peninsula is located at the border between Middle Europe, the Mediterranean and Asia, where the genus *Gnaphosa* seems to be well studied. Therefore, it was surprising to discover that species identifications of the Crimean *Gnaphosa* were quite difficult. This paper aims to resolve this problem by redescribing and illustrating the known Crimean species.

Material and Methods

Specimens for this study were recently collected in the Crimea by the author (the other collectors are mentioned in the text below), mostly by pitfall traps. Some

specimens used as comparative material were received for examination from numerous museums and personal collections. All specimens were returned to, or deposited in the following collections: AMNH — American Museum of Natural History, New York, USA, Dr. V.I. Ovtsharenko; EMZ — personal collection of Mr. E.M. Zhukovets, Minsk, Belarus; KVE — the personal collection of Dr. K.V. Evtushenko, Kiev, Ukraine; MNHN — Museum National d'Histoire Naturelle, Paris, France, Dr. C. Rollard; PSU — Department of Zoology, Perm State University, Perm, Russia, Dr. S.L. Esyunin; TNU — Zoology Department, V.I. Vernadsky Taurida National University, Simferopol, Ukraine, Mr. M.M. Kovblyuk; YMM — the personal collection of Dr. Yu.M. Marusik, Magadan, Russia; ZISP — Zoological Institute, Russian Academy of Science, St. Petersburg, Russia, Dr. V.A. Krivokhatsky; ZMMU — Zoological Museum of the Moscow State University, Moscow, Russia, Dr. K.G. Mikhailov.

Legs and palpal segments were measured after separation from the cephalothorax. Total length of leg = lengths of femur + patella + tibia + metatarsus + tarsus. Length/width of cephalothorax/abdomen measured after separating them by breaking the petiolus. Coloration was described from specimens preserved in 75% ethanol/water solution with added glycerin (9:1 by volume). Microphotographs were made with a Jeol JSM-5200 SEM in the Zoological Museum, University of Turku, Finland.

The following abbreviations are used in the text and illustrations: a — apical; ah — armature of epigynal hood; c — conductor; cd — copulatory duct; d — dorsal; e — embolus; et — embolic tubercles; f — fertilization duct; h — epigynal hood; lp — lateral pockets; lm — lateral epigynal margins; m — epigynal midpiece; ma — median apohysis; md — median epigynal ducts; mm — median epigynal margins; pl — prolateral; rl — retrolateral; rs — reservoir of receptacula seminis; s.p. — same place; ta — tibial apophysis; v — ventral. The abbreviations AM, AL, PM and PL refer respectively to the anterior median, anterior lateral, posterior median and posterior lateral eyes. Most of the terms for genital descriptions are adopted from Ovtsharenko *et al.* [1992] and Marusik, Koponen [2001]. The species group arrangement is adopted from Ovtsharenko *et al*. [1992]. All measurements are in mm: minimum–maximum; a figure in brackets represents the average. All scale bars equal 0.1 mm.

Survey of species

Genus *Gnaphosa* Latreille, 1804

Type species: *G. lucifuga* (Walckenaer, 1802).

The *lucifuga* group

Gnaphosa lucifuga (Walckenaer, 1802)

Figs 1–5.

[Platnick, Shadab, 1975: 11, figs 7, 9 (illustrated ♂♀); Grimm, 1985: 60, figs 43, 60, 61 (♂♀); Ovtsharenko, Platnick et Song, 1992: 5, figs 1–6 (illustrated ♂♀)]. This species is well known, for a complete list of references see Platnick [2004].

MATERIAL. UKRAINE: the Crimea, 1 ♂ (EMZ), Simferopol Distr., Nikolaevka, 16.06.1996, M. Kovblyuk & R. Slushaenko; 1 ♂ (EMZ), same distr., Krasnolesye, 7.07.1996, leg. R. Slushaenko; 1 ♂ (EMZ), same distr., Kirpichnoe, *Hordeum* field, pitfalls, 14-31.05.1997; 1 ♂ (EMZ), same distr., Lozovoe, 16.06.1997, A. Tsvetkov; 3 ♀♀ (EMZ), same distr., Krasnolesye, Kosh-Kaja Mt., north slope, under stones, 18.06.1997; 2 ♀♀ (EMZ), same distr., Mramornoe, under stones, 21.06.1997; 1 ♀ (TNU), Simferopol Distr., Chatyr-Dag Yaila Mt., 27.06.1998; 2 ♀♀ (TNU), same distr., E and W slopes of Dolgorukovskaya Yaila Mt., under stones, 11.07.1998; 1 ♂ (TNU), Lenin Distr. (Kerch peninsula), c. 2 km N of Vinogradnoe, salt marsh, 8.06.1999; 1 ♀ (TNU), Belogorsk Distr., c. 3 km west from Karasyovka, meadow, under stones, 25.06.1999; 1 ♂, 2 ♀♀ (TNU), Yalta Distr., Crimean State Natural Reserve, Gurzufskaya Yaila, Gurzufskoe sedlo Mt. pass, under stones, 15.08.1999, V.P. Kornilov; 1 ♀ (TNU), s.p., c. 1300 m a.s.l., under stones, 14.06.2000; 1 ♂ (TNU), same distr., coast of the Simferopol water reservoir, Phragmiteta communitis monospeciosum (Festuceto-Elytrigiosum compositae-herbosum), 10 pitfalls, 14–26.05.2000; 3 ♂♂, 3 ♀♀ (TNU), same distr., Nikitskaya Yaila (Skrinita), c. 1200 m a.s.l., *Asphodeline taurica, Stipa, Festuca,* 10 pitfalls, 2.06-30.09.2001; 1 ♀ (TNU), s.p., *Pinus pallasiana, Quercus petraea, Carpinus betulus, Acer* sp., 10 pitfalls, 14–24.07.2001.

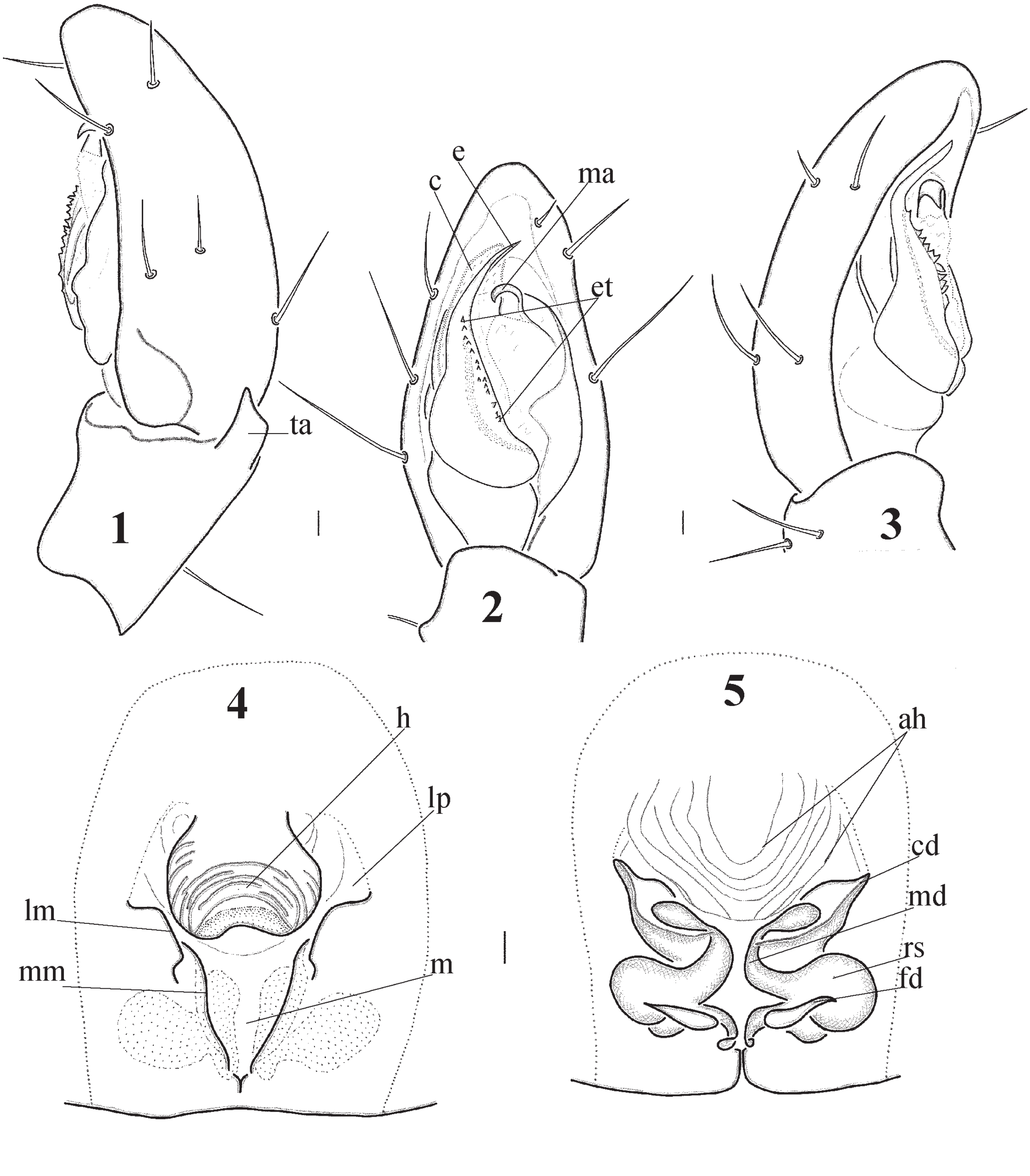
COMPARATIVE MATERIAL of *Gnaphosa betpaki* Ovtsharenko, Platnick et Song, 1992. KAZAKHSTAN, 1 ♀ (ZISP; paratype), Zhambyl Area, Sarysus Distr., Betpak-Dala Desert, 76 km NE of Ulanbel', loamy plain, 5.06.1990, A.A. Zyuzin, A.A. Fedorov; 1 ♀ (ZISP; paratype), Kzyl-Orda Area, Barsakel'mes Island in Aral Sea, 22.05.1982, T.V. Pavlenko.

DIAGNOSIS. *G. lucifuga* is closely related to *G. betpaki* Ovtsharenko, Platnick et Song, 1992, but can be distinguished from it by (1) the much larger body size (Table 1); (2) the epigynal hood, which is wider than lateral pockets in *G. lucifuga*, but equally wide in *G. betpaki* (Figs 4, 6, 7); (3) the much larger, well-developed armature of the epigynal hood in *G. lucifuga* (Figs 5, 7); and (4) the palpal structure [Ovtsharenko *et al*., 1992: figs 1, 2, 11–14].

DESCRIPTION. MALE (n = 5). *Measurements*. Total length 11.2–15.8 (13.6); carapace 6.0–7.4 (6.8) long and 4.7–5.9 (5.3) wide. Diameters of eyes and distances between them: AM 0.16–0.23 (0.20), AL 0.26–0.30 (0.28), PM 0.26–0.34 (0.28), PL 0.21–0.24 (0.23), AM-AM 0.16–0.22 (0.19), AM-AL 0.10–0.12 (0.11), PM-PM 0.08–0.12 (0.09), PM-PL 0.38–0.50 (0.44), AM-PM 0.32–0.42 (0.37), AL-PL 0.48–0.63 (0.56). Distance between anterior eyes and margin of clypeus: AM-clypeus 0.42–0.48 (0.45), AL-clypeus 0.33–0.40 (0.37). Length of leg segments:

	Femur	Patella + Tibia	Metatarsus	Tarsus	Total
Leg I	4.7-5.2 (5.0)	6.7-7.4 (7.1)	3.4-3.8 (3.6)	2.2-2.6 (2.4)	17.0-18.8 (18.0)
Leg II	4.3-5.0 (4.7)	6.3-6.8 (6.6)	3.5-3.8 (3.6)	2.2-2.5 (2.4)	16.3-17.9 (17.3)
Leg III	3.8-4.2 (4.0)	4.7-5.2 (5.0)	3.5-4.0 (3.7)	2.1-2.3 (2.2)	14.1-15.5 (14.9)
Leg IV	4.6-5.3 (5.0)	6.3-7.0 (6.7)	5.0-5.8 (5.4)	2.4-2.6 (2.5)	18.4-20.4 (19.6)

Length of palpal segments: femur 2.2–2.5 (2.3), patella 1.0–1.2 (1.1), tibia 0.8–0.9 (0.8), tarsus 1.8–2.0 (1.9). Abdomen 5.3–8.7 (6.8) long, 3.8–6.0 (4.8) wide. Basal segment of anterior (inferior) spinnerets 1.4–1.5 (1.4) long.



Figs 1–5. The copulatory organs of *Gnaphosa lucifuga* from the Crimea: 1 — male palp, retrolateral view; 2 — male palp, ventral view; 3 — male palp, prolateral view; 4 — epigyne, ventral view; 5 — epigyne, dorsal view.

Рис. 1–5. Копулятивные органы *Gnaphosa lucifuga* из Крыма: 1 — пальпа самца, ретролатерально; 2 — пальпа самца, вентрально; 3 — пальпа самца, пролатерально; 4 — эпигина, вентрально; 5 — эпигина, дорсально.

Leg spination. I — femur: d 1–1, pl 1; metatarsus: v-pl 1 or 0 (2 of 5 specimens). II — femur: d 1–1, pl 1–1; tibia: v-pl 1–1a or 1 (1 of 5 specimens); metatarsus: v 2 or v-pl 1 (1 of 5 specimens). III — femur: d 1–1, pl 1–1, rl 1–1; patella: rl 1 or 0 (1 of 5 specimens); tibia: pl 1–1–1 or 1–1 (2 of 5 specimens) or 2–1–1 (1 of 5 specimens), rl 1–1–1 or 2–1–1 (2 of 5 specimens), v 2–2–2a; metatarsus: pl 1–2–2 or 1–2 (1 of 5 specimens) or 1–1–2 (1 of 5 specimens) or 1–2–1–2 (1 of 5 specimens), rl 1–1–2, v 2–2–2a or 2–1–2–2a (2 of 5 specimens) or 2–1–2–1–2a (1 of 5 specimens). IV — femur: d 1–1, pl 1–1, rl 1–1; patella: 0 or rl 1 (1 of 5 specimens); tibia: pl 1–1, rl 2–1–1 or 1–1–1 (1 of 5 specimens) or 2–1–1–1 (1 of 5 specimens), v 2–2–2a or 2–1–2–2a (1 of 5 specimens); metatarsus: pl 1–2–2 or 1–2 (1 of 5 specimens)

Table 1. Comparative measurements of two *Gnaphosa* species.
Таблица 1. Сравнительные промеры двух видов *Gnaphosa*.

Measurements	*G. lucifuga* from the Crimea, personal data	*G. betpaki*, ♂♂, after Ovtsharenko et al. [1992]; ♀♀ paratypes, personal data
♂, total length	11.2-15.8	10.4
♂, carapace length	6.0-7.4	4.8
♂, carapace width	4.7-5.9	3.6
♂, femur II length	4.3-5.0	3.2
♀, total length	17.5-18.3	11.0-11.5
♀, carapace length	6.4-7.8	3.8-4.2
♀, carapace width	4.9-6.1	2.6-3.2
♀, femur II length	4.0-4.6	2.1-2.6

or 2–2 (1 of 5 specimens), rl 1–2–2, v 2–1–2–2a or 2–2–2a (1 of 5 specimens) or 1–2–2–1–2a (1 of 5 specimens).

Coloration. Carapace brown. Ocular area, chelicerae, labium, palpal endites black-brown. Sternum and coxae of legs I very dark brown. Femora of legs and palps yellow-brown, other leg and palp segments dark brown. Abdomen dark grey, scutum tiny (less than 1/10 length of abdomen); book-lungs yellow, spinnerets yellow-brown.

Palpal structure as in Figs 1–3.

FEMALE (n = 5). *Measurements.* Total length 17.5–18.3 (17.8); carapace 6.4–7.8 (7.0) long and 4.9–6.1 (5.5) wide. Diameters of the eyes and distances between them: AM 0.18–0.22 (0.20), AL 0.27–0.38 (0.30), PM 0.21–0.32 (0.27), PL 0.21–0.27 (0.25), AM-AM 0.16–0.22 (0.19), AM-AL 0.06–0.12 (0.09), PM-PM 0.08–0.14 (0.10), PM-PL 0.40–0.50 (0.44), AM-PM 0.33–0.40 (0.37), AL-PL 0.52–0.63 (0.59). Distance between anterior eyes and margin of clypeus: AM-clypeus 0.40–0.46 (0.44), AL-clypeus 0.30–0.40 (0.35). Length of leg segments:

	Femur	Patella + Tibia	Metatarsus	Tarsus	Total
Leg I	4.2-4.8 (4.5)	5.8-6.7 (6.18)	2.8-3.3 (3.0)	2.1-2.4 (2.2)	14.9-17.2 (15.9)
Leg II	4.0-4.6 (4.3)	5.4-6.3 (5.8)	2.7-3.4 (3.0)	2.0-2.4 (2.2)	14.1-16.7 (15.3)
Leg III	3.4-4.1 (3.7)	4.4-5.1 (4.8)	3.0-3.7 (3.3)	1.8-2.3 (2.0)	12.6-15.2 (13.8)
Leg IV	4.4-5.2 (4.8)	6.2-6.9 (6.5)	4.4-5.2 (4.8)	2.2-2.6 (2.3)	17.2-19.9 (18.4)

Length of palpal segments: femur 1.9–2.2 (2.1), patella 1.0–1.2 (1.2), tibia 0.8–1.0 (0.9), tarsus 1.4–1.8 (1.7). Abdomen 10.0–10.8 (10.3) long, 5.9–7.3 (6.6) wide. Basal segment of anterior (inferior) spinnerets 1.3–1.6 (1.4) long.

Leg spination. I — femur: d 1–1, pl 1; metatarsus: v-pl 1. II — femur: d 1–1, pl 1–1; tibia: v-pl 1–1a or 1a (1 of 5 specimens) or 0 (1 of 5 specimens); metatarsus: v 2. III — femur: d 1–1, pl 1–1, rl 1–1; patella: rl 1; tibia: pl 1–1–1 or 1–1 (1 of 5 specimens), rl 1–1–1 or 1–1 (2 of 5 specimens), v 2–2–2a or 2–2–1a (1 of 5 specimens); metatarsus: pl 1–2–2 or 1–2–3 (1 of 5 specimens) or 1–2 (1 of 5 specimens), rl 1–1–2 or 1–2 (1 of 5 specimens), v 2–2–2a or 2–1–2–2a (1 of 5 specimens) or 2–1–2–1–2a (1 of 5 specimens). IV — femur: d 1–1, pl 1–1 or 1 (1 of 5 specimens), rl 1–1; tibia: pl 1–1 or 2–1 (1 of 5 specimens), rl 2–1–1 or 1–1–1 (1 of 5 specimens) or 2–1–2 (1 of 5 specimens), v 2–2–2a or 2–1–2–1–2a (1 of 5 specimens); metatarsus: pl 1–2–2 or 2–2 (1 of 5 specimens), rl 1–2–2 or 1–1–2 (1 of 5 specimens), v 2–1–2–2a or 2–2–2a (1 of 5 specimens) or 3–1–1–1–2–1–2a (1 of 5 specimens).

Coloration. As in males. Scutum absent.

Epigyne as in Figs 4, 5.

TYPE LOCALITY. France [Ovtsharenko *et al*., 1992].

DISTRIBUTION. South and Central Europe, the Caucasus, Kazakhstan, Middle Asia [Bosmans, De Keer, 1985; Ovtsharenko *et al*., 1992; Esyunin, Efimik, 1996; Marusik, Koponen, 2001; Prokopenko, 2002]; the Crimea [Spassky, 1927; Charitonov, 1932; Mikhailov, 1997; Kovblyuk, 2000, 2003].

COMMENTS. It is interesting to note that the specimens *G. lucifuga* from the Crimea are characterized by an intermediate body size between spiders from Central Europe and Kazakhstan. European males have a total body length of 11.1–14.9 and carapace length of 5.3–6.8 [Grimm, 1985]; males from the Crimea 11.2–15.8 and 6.0–7.4 respectively; those from Kazakhstan 18–19 and 8.0–8.5 respectively [Marusik, Koponen, 2001]. Thus, the body size of *G. lucifuga* seems to increase from the west to the east.

PHENOLOGY. ♂♂ — V–IX; ♀♀ — VI–VIII.

Gnaphosa ukrainica Ovtsharenko, Platnick et Song, 1992

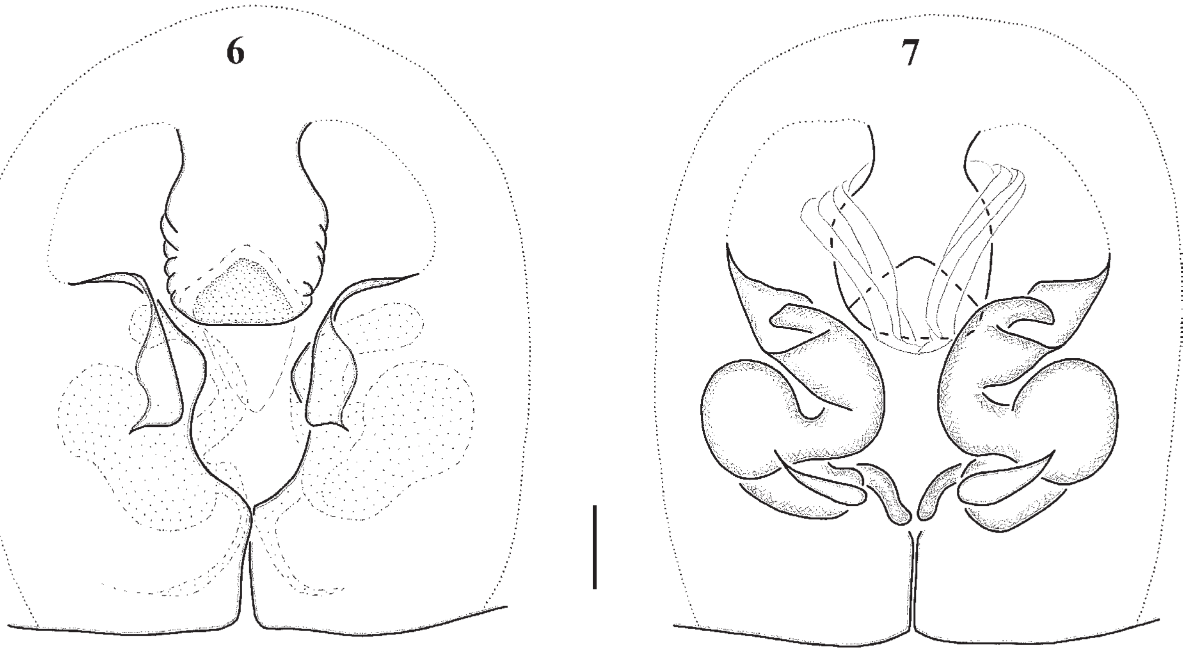
Figs 8–13.

G. ukrainica Ovtsharenko, Platnick et Song, 1992: 17–18, figs 49–50 (♂) (the ♂ holotype in ZISP, lost, not examined).

G. turkmenica Ovtsharenko, Platnick et Song, 1992: 18–19, figs 53–54 (♀) (the ♀ holotype in AMNH, examined) — **Syn.n.**

MATERIAL. UKRAINE: Crimea, 8 ♂♂, 1 ♀ (TNU), Saky Distr., Pribrezhnaya railway station, 45°09.317'N 33°30.044'E, c. 1 m a.s.l., humid salt-marsh, *Salicornia europaea, Halocnemum strobilaceum,* 10 pitfalls, 27.03–28.05.2000. TURKMENISTAN: 1 ♀ (AMNH; the ♀ holotype of *Gnaphosa turkmenica*), Badkhyz Reservation, near Oilanduz Lake, salt-marsh, near to water, 30.05.1977, V.Ya. Fet.

COMPARATIVE MATERIAL *G. ukrainica* Ovtsharenko, Platnick et Song, 1992. UKRAINE: 1 ♀ (TNU), Kherson Area, Golopristynskiy Distr., Chernomorskii Reserve, Potievka Island,



Figs 6–7. The epigyne of *Gnaphosa betpaki* (paratype) from Kazakhstan: 6 — ventral view; 7 — dorsal view.
Рис. 6–7. Эпигина *Gnaphosa betpaki* (паратип) из Казахстана: 6 — вентрально; 7 — дорсально.

salt-marsh, 20.06.1997, N.Yu. Polchaninova; 1 ♂ (ZISP), same area and distr., Chernomorskii Reserve, Solenozerniy region, bay coast, May 1985, Zelinskaya. The latter label does not correspond to the label data of *G. ukrainica* given by Ovtsharenko *et al.* [1992: p. 17] in the original description, viz. "male holotype from Potievka Island, Chernomorskii Reservation, Kherson, Ukraine, USSR (July 9, 1987; N. Polchaninova), deposited in ZIL [=ZISP]". Thus, I examined the topotype identified by V.I. Ovtsharenko, rather than the holotype of *G. ukrainica*. It is likely that the holotype is kept in the AMNH.

G. alacris Simon, 1878. FRANCE: 1 ♂, 1 ♀ (MNHN, AR 9762; the lectotype and paralectotype), "Corse".

DIAGNOSIS. *G. ukrainica* is most similar to *G. alacris* (Figs 14–17); from most *Gnaphosa* species it can be distinguished by the extremely small body size (see Table 2), the remarkably wide proximal part of the embolus lacking tubercles (Figs 8–10) and the closely situated median epigynal ducts (Figs 12, 13).

DESCRIPTION. MALE (n = 1). *Measurements.* Total length 5.2; carapace 2.3 long and 1.8 wide. Diameters of the eyes and distances between them: AM 0.15, AL 0.12, PM 0.14, PL 0.12, AM-AM 0.02, AM-AL 0, PM-PM 0.03, PM-PL 0.09, AM-PM 0.06, AL-PL 0.08. Distance between anterior eyes and margin of clypeus: AM-clypeus 0.06, AL-clypeus 0.09. Length of leg segments:

	Femur	Patella + Tibia	Metatarsus	Tarsus	Total
Leg I	1.8	2.6	1.4	0.9	6.7
Leg II	1.6	2.2	1.4	0.8	6.1
Leg III	1.4	1.7	1.2	0.8	5.1
Leg IV	2.0	2.6	2.0	1.0	7.5

Length of palpal segments: femur 0.8, patella 0.4, tibia 0.3, tarsus 0.6. Abdomen 3.0 long, 1.8 wide. Basal segment of anterior (inferior) spinnerets 0.3 long.

Leg spination. I — femur: d 1–1, pl 1. II — femur: d 1–1, pl 1; tibia: v-pl 1a; metatarsus: v-pl 1. III — femur: d 1–1, pl 1–1, rl 1–1; patella: rl 1; tibia: pl 1–1, rl 1–1, v 2–2–2a; metatarsus: pl 1–2, rl 1–1–2, v 2–2a. IV — femur: d 1–1, pl 1–1, rl 1; tibia: pl 1–1, rl 1–1–1, v 2–2–2a; metatarsus: pl 1–1–2, rl 1–2–2, v 2–1–1a.

Coloration. Carapace, sternum, legs and palps, abdomen are pale yellow-grey. Chelicerae, labium, palpal endites, tarsi of legs I, II and palps, scutum of abdomen are light yellow-brown.

Palp as in Figs 8–10. Embolus without tubercles.

FEMALE (n = 1). *Measurements.* Carapace 2.4 long and 1.9 wide. Length of leg segments:

	Femur	Patella + Tibia	Metatarsus	Tarsus	Total
Leg I	1.6	2.3	1.0	0.8	5.8
Leg II	1.5	2.0	1.2	0.8	5.6
Leg III	1.3	1.6	1.2	0.8	4.9
Leg IV	1.8	2.5	2.0	1.0	7.3

Length of palpal segments: femur 0.8, patella 0.4, tibia 0.3, tarsus 0.6. Abdomen 3.6 long, 2.2 wide. Basal segment of anterior (inferior) spinnerets 0.5 long.

Leg spination. I — femur: d 1–1, pl 1. II — femur: d 1–1, pl 1; metatarsus: v-pl 1. III — femur: d 1–1, pl 1–1, rl 1–1; tibia: pl 1–1–1, rl 1–1, v 2–2–2a; metatarsus: pl 1–1–2, rl 1–2, v 2–2a. IV — femur: d 1–1, pl 1, rl 1; tibia: pl 1–1, rl 1–1–1, v 2–2–2a; metatarsus: pl 1–1–1, rl 1–2–1, v 2–2a.

Table 2. Comparative measurements of some *Gnaphosa* species after different authors.
Таблица 2. Сравнительные промеры нескольких видов *Gnaphosa* по данным разных авторов.

	G. alacris, after Simon [1878]; Pyrenees	*G. alacris*, type specimens, personal data; Pyrenees	"*G. alacris*", after Di Franco [1992]; Italy	*G. ukrainica*, after Ovtsharenko et al. [1992]; Kherson Area	*G. turkmenica*, after Ovtsharenko et al. [1992]; Turkmenistan	*G. ukrainica*, personal data; the Crimea
♂, carapace length	3.5	3.4	1.7-3.2	2.4	?	2.3
♂, carapace width	2.6	2.4	1.1-2.4	1.7	?	1.8
♀, carapace length	4.1	3.6	2-2.7	?	2.3	2.4
♀, carapace width	3	2.8	1.4-2.1	?	1.7	1.9

Coloration as in males. Scutum absent.

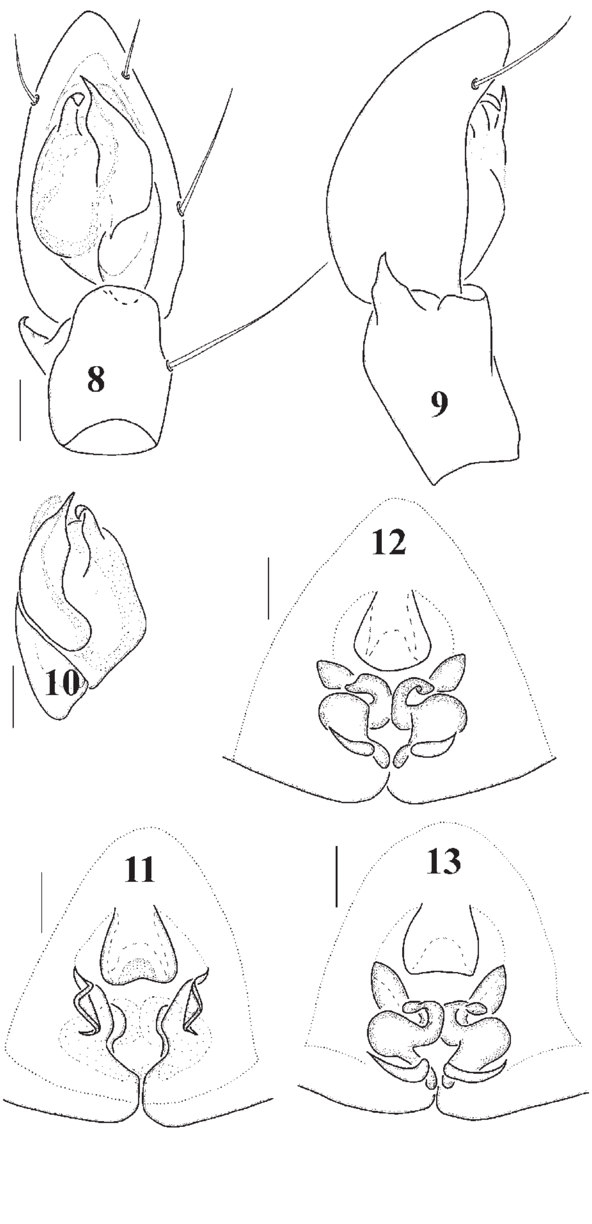
Epigyne as in Figs 11–13.

COMMENTS. A comparison of the *G. ukrainica* topotype with specimens from the Crimea revealed their identity. However, both palps of the topotype were crushed laterally. The figure by Ovtsharenko *et al.* [1992: fig. 49] is not quite exact; actually, the embolus is not curved as it is illustrated in the revision, but almost straight (Figs 8, 10) and it is not directed laterally, but apico-laterally.

A comparison of the ♀ holotype of *G. turkmenica* with the Crimean female of *G. ukrainica* collected together with males revealed their true identity. Therefore, *G. turkmenica* Ovtshiarenko, Platnick et Song, 1992 is here synonymized with *G. ukrainica* Ovtsharenko, Platnick et Song, 1992.

A further comparison of the Ukrainian specimens of *G. ukrainica* (♂♀) with the ♂ lectotype and ♀ paralectotype of *G. alacris* revealed that they are distinctly different species. While examining the types of *G. alacris*, I found that the drawings of *G. alacris* by Di Franco [1992 (1994): figs 1–4] corresponded to the ♀ paralectotype, but not to the ♂ lectotype. On the contrary, the figures by Pesarini [2000: figs 12, 13] clearly corresponded to the ♂ lectotype, but not to the ♀ paralectotype. I do not know which species was illustrated both by Di Franco [1992 (1994)] as the male of *G. alacris* and by Pesarini [2000] as its female; however, they were certainly not *G. alacris*. Measurements of the specimens studied by Di Franco are remarkably smaller in comparison with the type specimens of *G. alacris* (see Table 2). It is also likely that the females studied by Di Franco do not belong to *G. alacris* either.

However, Francesca Di Franco [pers. comm.] disagrees and considers the identifications of *G. alacris* correct, be-



Figs 8–13. The copulatory organs of *Gnaphosa ukrainica* from the Crimea: 8 — male palp, ventral view, 9 — male palp, retrolateral view; 10 — bulbus, ventral view; 11 — epigyne, ventral view; 12, 13 — epigyne, dorsal views (variants of views).

Рис. 8–13. Копулятивные органы *Gnaphosa ukrainica* из Крыма: 8 — пальпа самца, вентрально, 9 — пальпа самца, ретролатерально; 10 — бульбус, вентрально; 11 — эпигина, вентрально; 12, 13 — эпигина, дорсально (в немного разных ракурсах).

cause (1) she compared her specimens with those taken from Corsica (most probably identified by Simon), and (2) the differences in the carapace sizes between her specimens and the type specimens of *G. alacris* are, in her opinion, insignificant. This matter needs further attention in the future.

TYPE LOCALITY. Ukraine, Kherson Area, Golopristanskiy Distr., Chernomorskiy Reservation [Ovtsharenko *et al*., 1992].

DISTRIBUTION. Ukraine (Kherson Area, the Crimea); southern Turkmenistan. *G. ukrainica* is a new species record for the Crimean fauna.

PHENOLOGY. ♂♂ — IV–V; ♀♀ — V.

Gnaphosa cumensis Ponomarjov, 1981
Figs 18–28.

Gnaphosa cumensis Ponomarjov, 1981: 57–59, fig. 3 (♀) (the ♀ holotype deposited in ZISP, lost, not examined; 2 ♀♀ paratypes in ZISP, examined).

Gnaphosa cumensis: Ovtsharenko *et al.*, 1992: 10–12, figs 9–10, 23–26 (♂♀).

MATERIAL. UKRAINE: 214 ♂♂, 90 ♀♀ (TNU), the Crimea, Saky Distr., Pribrezhnaya railway station, 45°09.317'N 33°30.044'E, c. 1 m a.s.l., humid salt-marsh, *Salicornia europaea, Halocnemum strobilaceum,* 27.03–18.12.2000; 2 ♂♂, 1 ♀ (TNU), s.p., halophyte meadow, 10 pitfalls, 8.06–3.07.2000; 1 ♂ (ZISP), Kherson Area, Golopristynskiy Distr., Chernomorskiy Reservation, Solenozerniy region, steppe, 23.05.1985, leg. Zelinskaya. RUSSIA, Kalmykiya: 2 ♀♀ (ZISP; the paratypes), Chernozemelsk Area, Rybachii Vil., coast of salt lake, 15–23.06.1974, A.V. Ponomarjov. MONGOLIA: 2 ♂♂, 1 ♀ (ZISP, N. 3-927), Bayan Khongor, coast of Orog-Nuur Lake, 10.08.1926, leg. Kirichenko.

DIAGNOSIS. *G. cumensis* is similar to *G. zeugitana* Pavesi, 1880, *G. dolosa* O. Herman, 1879, *G. jucunda* Thorell, 1875 and *G. saurica* Ovtsharenko, Platnick et Song, 1992, but can be separated from them by the pale coloration, the embolus lacking tubercles (Figs 19–23) and the rectangular contours of the lateral pockets (Figs 25–28) (not triangular as at *G. saurica* and *G. dolosa*, see Figs 34, 36, 42 or rounded as at *G. zeugitana* [Di Franco F. 1992 (1994): 199, figs 7–8]). *G. cumensis* and *G. zeugitana* are characterized by the long and anteriorly directed median epigynal ducts (Figs 26, 28), *G. saurica* and *G. dolosa* possess short and laterally directed ducts (Figs 35, 37, 43–44).

DESCRIPTION. MALE (n = 15). *Measurements.* Total length 9.0–14.1 (9.5); carapace 3.9–6.2 (4.7) long and 3.0–4.7 (3.6) wide. Diameters of the eyes and distances between them: AM 0.15–0.22 (0.18), AL 0.15–0.21 (0.18), PM 0.19–0.27 (0.25), PL 0.14–0.19 (0.17), AM-AM 0.12–0.22 (0.16), AM-AL 0.03–0.12 (0.07), PM-PM 0.02–0.12 (0.05), PM-PL 0.16–0.33 (0.23), AM-PM 0.18–0.28 (0.22), AL-PL 0.20–0.39 (0.27). Distance between anterior eyes and margin of clypeus: AM-clypeus 0.26–0.52 (0.35), AL-clypeus 0.20–0.34 (0.27). Length of leg segments:

	Femur	Patella + Tibia	Metatarsus	Tarsus	Total
Leg I	2.9-4.1 (3.5)	4.0-5.8 (4.8)	2.0-2.9 (2.4)	1.4-1.8 (1.6)	10.3-14.6 (12.3)
Leg II	2.7-3.9 (3.2)	3.6-5.1 (4.3)	1.9-2.8 (2.3)	1.2-1.8 (1.5)	9.6-13.6 (11.4)
Leg III	2.2-3.2 (2.7)	2.8-3.8 (3.2)	2.0-2.8 (2.4)	1.2-1.7 (1.4)	8.2-11.5 (9.8)
Leg IV	2.8-4.1 (3.6)	3.6-5.2 (4.5)	2.7-4.0 (3.6)	1.5-2.0 (1.7)	11.4-15.4 (13.6)

Length of palpal segments: femur 1.3–1.9 (1.6), patella 0.6–1.0 (0.8), tibia 0.5–0.7 (0.6), tarsus 0.9–1.3 (1.0). Abdomen 4.8–8.2 (5.6) long, 2.1–4.6 (3.0) wide. Basal segment of anterior (inferior) spinnerets 0.8–1.0 (0.9) long.

Leg spination. I — femur: d 1–1, pl 1. II — femur: d 1–1 or 1, pl 1–1–1 or 1–1 or 1; metatarsus: v-pl 1 or v 2. III — femur: d 1–1, pl 1–1, rl 1–1 or 0; patella: rl 1 or 1–1; tibia: d 1, pl 2 or 1–1–1 or 2–1–1, rl 1–1 or 2–1 or 1–1–1 or 2–1–1 or 1–2–1, v 2–2–2a; metatarsus: 11–16 (14) spines. IV — femur: d 1–1, pl 1 or 1–1 or 0, rl 1 or 1–1 or 0; patella: rl 1 or 0; tibia: pl 1–1 or 1–1–1 or 1–1–1–1 or 0, rl 1–1–1 or 2–1–1 or 1–1–1–2 or 1–1–1–2–1, v 2–2–2a or 1–2–2a or 2–1–2a; metatarsus: 13–17 (15) spines.

Coloration. Carapace light yellow-brown. Ocular area, chelicerae, labium, palpal endites, sternum and coxae of legs I dark brown. All leg segments light yellow-brown. Palp: coxa, proximal femoral region and tarsus dark brown; distal femoral region, patella and tibia light yellow-brown. Abdomen grey, with a yellow median mark as long as half the abdominal length; scutum and book-lungs brown.

Palp as in Figs 18–24. Embolus without tubercles.

FEMALE (n = 15). *Measurements.* Total length 8.0–14.2 (10.8); carapace 4.2–5.6 (4.7) long and 3.2–4.2 (3.5) wide. Diameters of the eyes and distances between them: AM 0.14–0.22 (0.17), AL 0.16–0.24 (0.19), PM 0.18–0.3 (0.25), PL 0.15–0.19 (0.18), AM-AM 0.12–0.20 (0.16), AM-AL 0.04–0.09 (0.07), PM-PM 0.02–0.04 (0.03), PM-PL 0.20–0.30 (0.23), AM-PM 0.16–0.27 (0.23), AL-PL 0.22–0.32 (0.27). Distance between anterior eyes and margin of clypeus: AM-clypeus 0.27–0.34 (0.31), AL-clypeus 0.21–0.28 (0.23). Length of leg segments:

	Femur	Patella + Tibia	Metatarsus	Tarsus	Total
Leg I	3.0-3.6 (3.2)	4.0-4.7 (4.2)	2.0-2.3 (2.1)	1.4-1.7 (1.5)	10.4-12.3 (11.1)
Leg II	2.8-3.4 (3.0)	3.5-4.2 (3.8)	1.9-2.2 (2.0)	1.3-1.6 (1.4)	9.5-11.5 (10.2)
Leg III	2.4-2.8 (2.6)	2.8-3.4 (3.1)	2.0-2.4 (2.2)	1.2-1.5 (1.4)	8.6-10.0 (9.2)
Leg IV	3.2-3.8 (3.4)	4.0-4.8 (4.4)	2.8-3.6 (3.3)	1.6-1.8 (1.6)	11.6-14.2 (12.8)

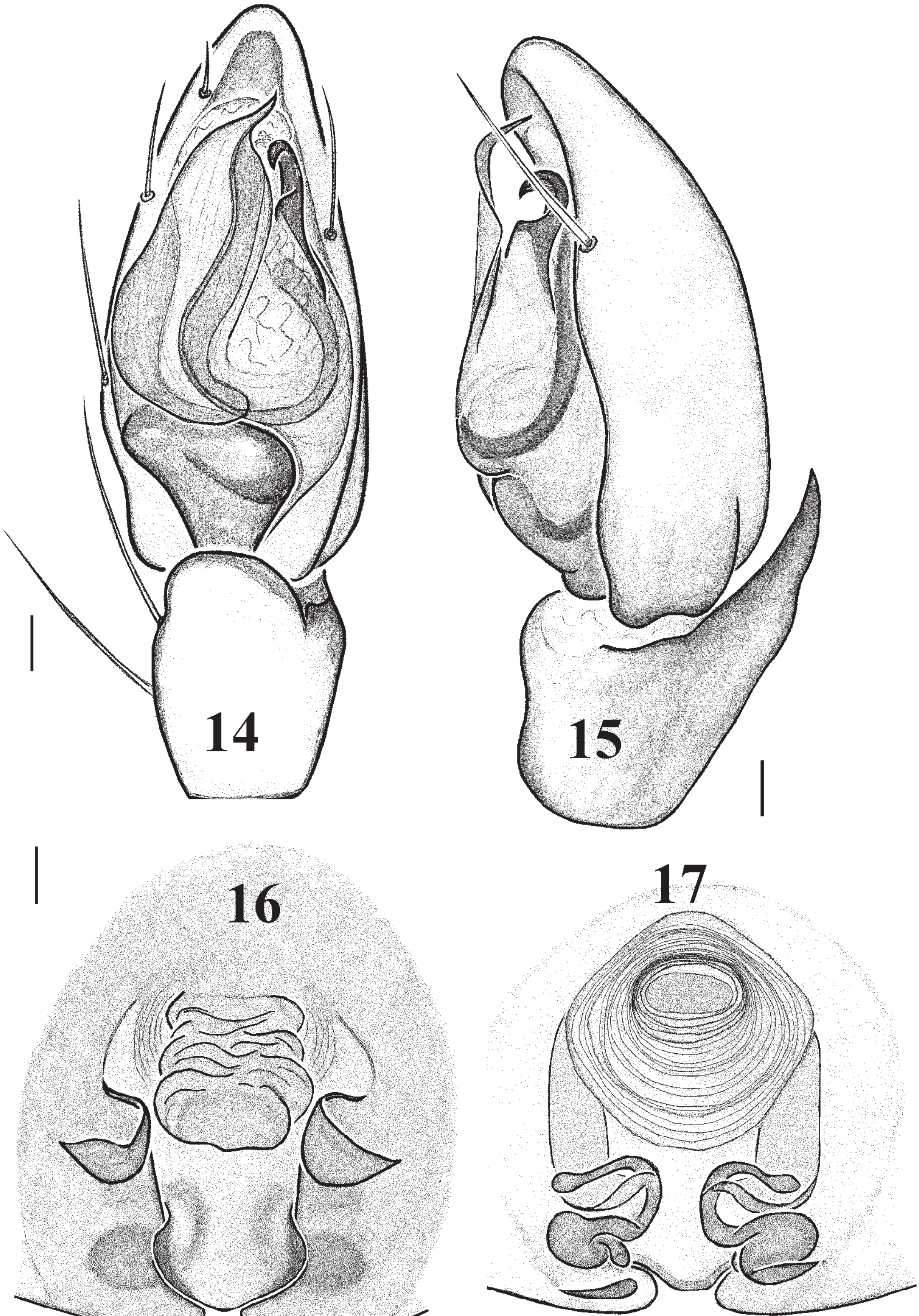
Length of palpal segments: femur 1.4–1.6 (1.4), patella 0.8–0.9 (0.8), tibia 0.6–0.7 (0.6), tarsus 1.0–1.2 (1.1). Abdomen 4.4–10.1 (6.6) long, 2.6–5.8 (3.9) wide. Basal segment of anterior (inferior) spinnerets 0.7–1.5 (0.9) long.

Leg spination. I — femur: d 1–1, pl 1 or 1–1. II — femur: d 1–1, pl 1–1; tibia: 0 or v-pl 1a; metatarsus: v-pl 1 or v 2. III — femur: d 1–1, pl 1–1, rl 1–1; patella: rl 1 or pl 1 and rl 1–1; tibia: d 1, pl 1–1–1 or 2–1–1, rl 1–1 or 2–1, v 2–2–2a or 2–1–2a; metatarsus: 13–19 (14) spines. IV — femur: d 1–1, pl 1, rl 1 or 1–1; patella: rl 1 or 0; tibia: pl 1–1 or 1–1–1 or 2–1–1 or 1–2–1, rl 2–1–1 or 1–1–2–1 or 2–1–2, v 2–2–2a or 1–2–2a or 2–1–2–2a or 1–2–2–2a; metatarsus: 13–17 (15) spines.

Coloration. Carapace light yellow-brown. Ocular area, chelicerae, labium, palpal endites, sternum and coxae of legs I dark brown. All leg segments light yellow-brown. Palp: coxa, proximal femoral region and tarsus dark brown; distal femoral region, patella and tibia light yellow-brown. Abdomen grey, without scutum.

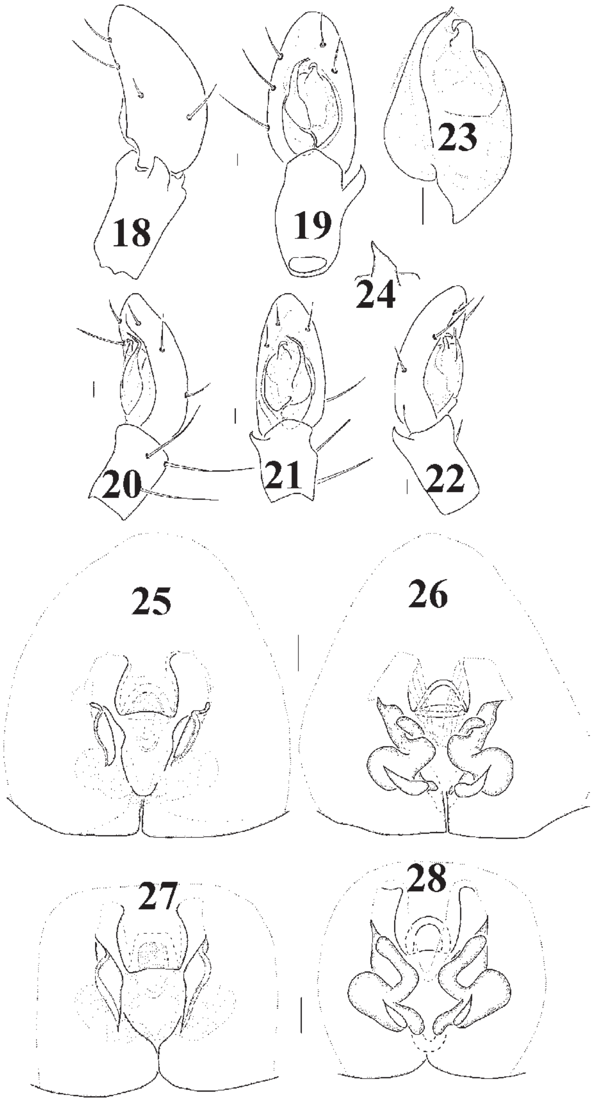
Epigyne as in Figs 25–28.

TYPE LOCALITY. RUSSIA: Kalmykia, Chernozemelsky Distr., Rybachyi Vil. [Povomarjov, 1981].



Figs 14–17. The copulatory organs of *Gnaphosa alacris* (male lectotype and female paralectotype) from the Pyrenees: 14 — male palp, ventral view; 15 — male palp, retrolateral view; 16 — epigyne, ventral view; 17 — epigyne, dorsal view.

Рис. 14–17. Копулятивные органы *Gnaphosa alacris* (самец лектотип и самка паралектотип) с Пиреней: 14 — пальпа самца, вентрально; 15 — пальпа самца, ретролатерально; 16 — эпигина, вентрально; 17 — эпигина, дорсально.



Figs 18–28. The copulatory organs of *Gnaphosa cumensis* (25, 26 — paratypes from Kalmykiya; 18–23, 27, 28 — specimens from Crimea; 24 — specimen from Mongolia): 18, 22 — male palps, retrolateral view; 19, 21 — male palps, ventral view; 20 — male palp, prolateral view; 23 — bulbus, ventral view; 24 — tibial apophysis; 25, 27 — epigynes, ventral views; 26, 28 — epigynes, dorsal views.

Рис. 18–28. Копулятивные органы *Gnaphosa cumensis* (25, 26 — паратипы из Калмыкии; 18–23, 27, 28 — экземпляры из Крыма; 24 — экземпляр из Монголии): 18, 22 — пальпа самца, ретролатерально; 19, 21 — пальпа самца, вентрально; 20 — пальпа самца, пролатерально; 23 — бульбус, вентрально; 24 — отросток голени; 25, 27 — эпигины, вентрально; 26, 28 — эпигины, дорсально.

DISTRIBUTION. Mongolia, Russia (Kalmykiya, Volgograd Area), Ukraine (Kherson Area — see material; Donetsk Area, the Crimea — new record) [Ponomarjov, 1981; Ovtsharenko, Platnick et Song, 1992; Prokopenko, 2002]. *G. cumensis* is a new species record for the Crimean fauna.

PHENOLOGY. ♂♂ — IV–XII; ♀♀ — V–XI.

Gnaphosa saurica Ovtsharenko, Platnick et Song, 1992

Figs 29–46.

G. saurica Ovtsharenko, Platnick et Song, 1992: 8–9, figs 15–18 (♂♀) (the ♂ holotype and the ♀ paratypes in ZISP and in AMNH, examined).

G. dolosa sensu Ovtsharenko, Platnick et Song, 1992: 9–10, figs 19–22 (♂♀).

G. saurica: Esyunin & Efimik, 1996: 107, figs 6–12 (illustrated and compared the ♀ of *G. dolosa sensu* Esyunin & Efimik [1996] and the ♂♀ of *G. saurica*).

MATERIAL. UKRAINE: the Crimea, 1 ♂ (TNU), Simferopol Distr., near Lozovoe, 7.07.1996, S.A. Dyadyushkin; 1 ♂ (TNU), Simferopol Distr., *Hordeum* plantation, pitfalls, 14–31.05.1997; 24 ♂♂, 3 ♀♀ (TNU), Saky Distr., Pribrezhnaya railway station, 45°09.317'N 33°30.044'E, c. 1 m a.s.l., humid salt-marsh, *Salicornia europaea, Halocnemum strobilaceum,* 10 pitfalls, 30.04.–27.08.2000; 1 ♂ (TNU), s.p., halophyte meadow, 10 pitfalls, 8–24.06.2000; 1 ♂ (TNU), s.p., *Artemisia* steppe, 10 pitfalls, 9–19.05.2000; 4 ♂♂, 1 ♀ (TNU), s.p., *Leymus sabulosus* on the sand, 10 pitfalls, 9–19.05.2000.

COMPARATIVE MATERIAL on *G. saurica* Ovtsharenko, Platnick et Song, 1992: KAZAKHSTAN: 1 ♀ (AMNH; the holotype), East-Kazakhstan Area, Zaisan Distr., Saur Mt. range, near Akkolka River Valley, dry stony steppe, 5–9.06.1990, K.Yu. Eskov; 2 ♀♀ (AMNH; the pararypes), Abai Distr., c. 30 km S of Sarzhal, Shagan River, 06.1990, V.P. Tyshchenko; 1 ♂ (ZISP; det. hitherto by A.V. Ponomarjov as *G. spadicea* and then by V.I. Ovtsharenko as *G. dolosa* Herman, 1879), Ural Area, Dzhangalinski Distr., New Kaganka, bank of Little Usen River, 22.08.1976, A.V. Ponomarjov. RUSSIA: 2 ♂♂, 3 ♀♀ (PSU), Orenburg Region, Sol'-Iletskyi Area, Shybyndy Ravine, chalk slope, 5–13.06.2000, S.L. Esyunin; 2 ♂♂, 3 ♀♀ (PSU), same region, Svetlinskyi Distr., near of Svetlyi, Malkal-Igiz-Kara Lake, *Artemisia* steppe, 6.06.2002, T.K. Tuneva. UKRAINE: 1 ♂ (TNU), Donetsk Area, Pershotravnevyi Distr., coast of the Sea of Azov, Belosarayskaya Kosa, coastline, in the alluvium, 5.05.2002, E.V. Prokopenko; 2 ♂♂ (TNU), s.p., salt-marsh, 3–9.05.2002, E.V. Prokopenko; 2 ♀♀ (ZISP), Dnepropetrovsk Region, Novomoskovsk Distr., Andreevka, Samara River, 1972–1973, A.A. Zyuzin. – GEORGIA: 2 ♂♂, 18 ♀♀ (ZISP; det. hitherto by V.I. Ovtsharenko as *G. dolosa*), Abkhasia, Gentsvishi, 17.08.1974, I.S. Egorova. AZERBAIJAN: 4 ♂♂ (ZISP; det. hitherto by V.I. Ovtsharenko as *G. dolosa*), Dzhafarkhan, Saatly, 6.07.1982, P.M. Dunin.

DIAGNOSIS. Ovtsharenko *et al* [1992] described *G. saurica* from one male and two females. Levy [1995] examined the ♀ paratypes of *G. saurica* from Kazakhstan and assigned them to *G. barroisi* Simon, 1892.

It is impossible to estimate the variation of diagnostic characters (e.g. the number and shape of teeth at the embolic base) based on a single male. In the diagnosis, the "double-headed tubercle" of the embolus was indicated. However, V.I. Ovtsharenko mentioned a high degree of variability of the tubercles at the embolus base (V.I. Ovtsharenko, pers. comm.) and my data are concordant with his data (see Figs 31–33, 40, 41, 45, 46). Tubercles at the base of the embolus are highly variable in shape and number, so it is impossible to distinguish the males of *G. dolosa* and *G. saurica* based on the diagnosis given by Ovtsharenko *et al*. [1992]. The epyginal structure is also variable, so that the females of *G. dolosa, G. saurica* and *G. jucunda* are indistinguishable by their epygines. These species are better distinguished by measurements, but a clear hiatus between them is also absent (see Table 3).

DESCRIPTION. MALE (n = 15). *Measurements.* Total length 5.0–7.5 (6.1); carapace 2.2–3.6 (3.1) long and 1.8–2.9 (2.4) wide. Diameters of the eyes and distances between them: AM 0.10–0.14 (0.12), AL 0.14–0.18 (0.15), PM 0.12–

Table 3. Comparative measurements of some *Gnaphosa* species after different authors.
Таблица 3. Сравнительные промеры нескольких видов *Gnaphosa* по данным разных авторов.

	G. jucunda, after Thorell [1875ab]; the Crimea	*G. dolosa*, after Herman [1879]; Romania	*G. saurica*, after Ovtsharenko et al. [1992]; Tuva or East Kazakhstan	*G. saurica*, personal data; the Crimea	*G. saurica* (*G. dolosa* sensu Ovtsharenko), personal data; Abkhasia
♀, total length	10.25	10	8.7	5.6-6.6	7.0-11.2
♀, carapace length	5.0	4.8	3.7	2.6-3.2	3.0-4.3
♀, Leg I	13	12	?	5.7-7.4	6.7-10.2
♀, Leg II	12.25	11.3	?	5.2-6.8	6.4-9.6
♀, Leg III	11.5	9.6	?	4.5-6.0	5.8-9
♀, Leg IV	16.6	15.5	?	6.8-8.8	8.5-12.2
♂, total length	?	10	6.6	5.0-7.5	5.9-9.5
♂, carapace length	?	5.2	3.1	2.2-3.6	2.6-4.1

0.18 (0.15), PL 0.12–0.14 (0.13), AM-AM 0.04–0.14 (0.10), AM-AL 0.02–0.04 (0.03), PM-PM 0.02–0.07 (0.04), PM-PL 0.08–0.26 (0.18), AM-PM 0.09–0.21 (0.14), AL-PL 0.15–0.28 (0.21). Distance between anterior eyes and margin of clypeus: AM-clypeus 0.10–0.21 (0.16), AL-clypeus 0.08–0.16 (0.12). Length of leg segments:

	Femur	Patella + Tibia	Metatarsus	Tarsus	Total
Leg I	1.6-2.5 (2.2)	2.2-3.5 (3.0)	1.1-2.0 (1.5)	0.9-1.2 (1.0)	5.8-8.8 (7.7)
Leg II	1.4-2.4 (2.0)	1.9-3.1 (2.6)	1.0-1.6 (1.4)	0.8-1.1 (1.0)	5.0-8.0 (7.0)
Leg III	1.2-2.0 (1.6)	1.6-2.3 (2.0)	1.0-1.6 (1.4)	0.7-1.0 (0.9)	4.6-6.8 (6.0)
Leg IV	1.8-2.7 (2.2)	2.3-3.4 (2.9)	1.6-2.5 (2.1)	1.0-1.4 (1.1)	6.6-9.8 (7.8)

Length of palpal segments: femur 0.8–1.3 (1.1), patella 0.4–0.6 (0.5), tibia 0.2–0.4 (0.4), tarsus 0.6–0.9 (0.8). Abdomen 2.8–3.8 (3.2) long, 1.4–2.4 (1.9) wide. Basal segment of anterior (inferior) spinnerets 0.4–0.8 (0.6) long.

Leg spination. I — femur: d 1–1, pl 1. II — femur: d 1–1, pl 1–1 or 1 (2 of 15 specimens); tibia: 0 or v-pl 1a (1 of 15 specimens); metatarsus: v-pl 1. III — femur: d 1–1, pl 1–1, rl 1–1; patella: rl 1 or 0 (1 of 15 specimens); tibia: pl 1–1 or 2–1 (2 of 15 specimens) or 1–1–1 (1 of 15 specimens), rl 1–1 or 2–1–1 (6 of 15 specimens) or 2–1 (3 of 15 specimens), v 2–2–2a; metatarsus: pl 1–2, rl 1–2 or 1–1–2 (3 of 15 specimens), v 2–1–2a or 2–2a (5 of 15 specimens) or 2–2–2a (1 of 15 specimens). IV — femur: d 1–1 or 1–1–1 (1 of 15 specimens), pl 1–1 or 1 (2 of 15 specimens), rl 1 or 1–1 (1 of 15 specimens); tibia: d 0 or 1 (1 of 15 specimens), pl 1–1 or 2–2–1 (1 of 15 specimens), rl 1–1–1 or 1–1–1–1 (1 of 15 specimens) or 1–2–1–1 (1 of 15 specimens) or 2–1–1–1 (1 of 15 specimens), v 2–2–2a or 2–1–2–1–1–2a (1 of 15 specimens); metatarsus: pl 1–2 or 2–2 (1 of 15 specimens) or 1–2–2 (1 of 15 specimens) or 1–2–1–2 (1 of 15 specimens), rl 1–1–2 or 1–2 (3 of 15 specimens) or 1–1–1–2 (1 of 15 specimens) or 1–2–2 (1 of 15 specimens), v 2–1–2a or 1–1–2a (2 of 15 specimens) or 1–2–1–2a (1 of 15 specimens) or 2–1–1–2a (1 of 15 specimens) or 1–2–1–1–1–2a (1 of 15 specimens).

Coloration. Carapace brown. Ocular area, chelicerae, labium, palpal endites, sternum and coxae of legs I very dark brown. All leg segments brown. Palp: coxa, proximal femoral region and tarsus dark brown; distal femoral region, patella and tibia brown. Abdomen grey, scutum brown; book-lungs yellow-brown.

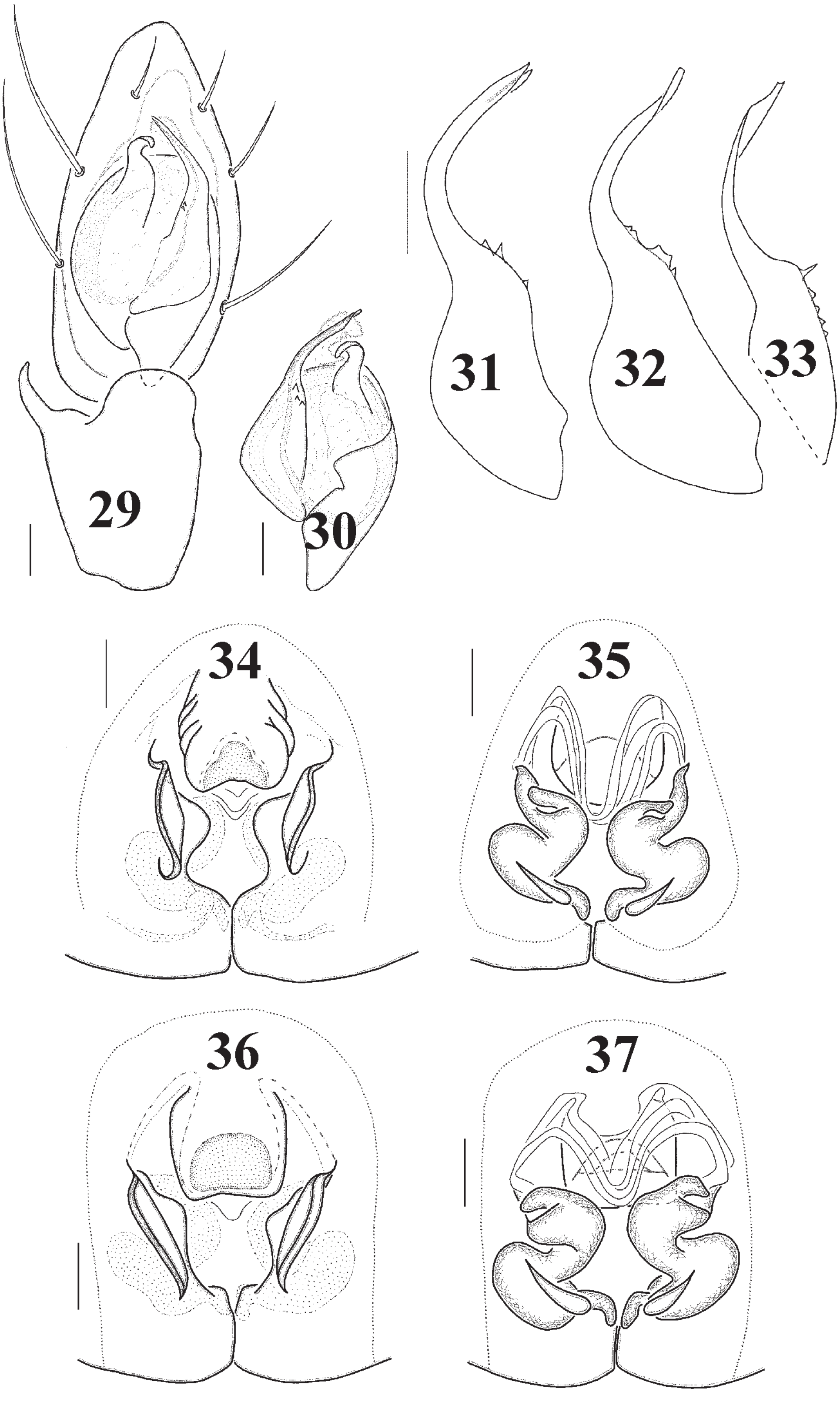
Palp as in Figs 29–33, 38–41, 45, 46.

FEMALE (n = 5). *Measurements.* Total length 5.6–6.6 (6.2); carapace 2.6–3.2 (3.0) long and 2.0–2.5 (2.3) wide. Diameters of the eyes and distances between them: AM 0.10–0.14 (0.11), AL 0.14–0.18 (0.15), PM 0.12–0.15 (0.14), PL 0.12–0.15 (0.13), AM-AM 0.08–0.14 (0.10), AM-AL 0.03–0.04 (0.03), PM-PM 0.03–0.06 (0.04), PM-PL 0.16–0.22 (0.20), AM-PM 0.12–0.18 (0.16), AL-PL 0.18–0.26 (0.22). Distance between anterior eyes and margin of clypeus: AM-clypeus 0.14–0.18 (0.16), AL-clypeus 0.09–0.14 (0.10). Length of leg segments:

	Femur	Patella + Tibia	Metatarsus	Tarsus	Total
Leg I	1.7-2.2 (2.0)	2.2-2.8 (2.7)	1.0-1.4 (1.3)	0.8-1.0 (0.9)	5.7-7.4 (6.9)
Leg II	1.5-2.0 (1.8)	2.0-2.6 (2.4)	1.0-1.3 (1.2)	0.8-1.0 (0.9)	5.2-6.8 (6.3)
Leg III	1.2-1.9 (1.6)	1.6-2.0 (1.9)	1.0-1.4 (1.2)	0.7-0.9 (0.8)	4.5-6.0 (5.6)
Leg IV	1.8-2.2 (2.1)	2.4-3.1 (2.9)	1.6-2.3 (2.1)	0.9-1.1 (1.0)	6.8-8.8 (8.1)

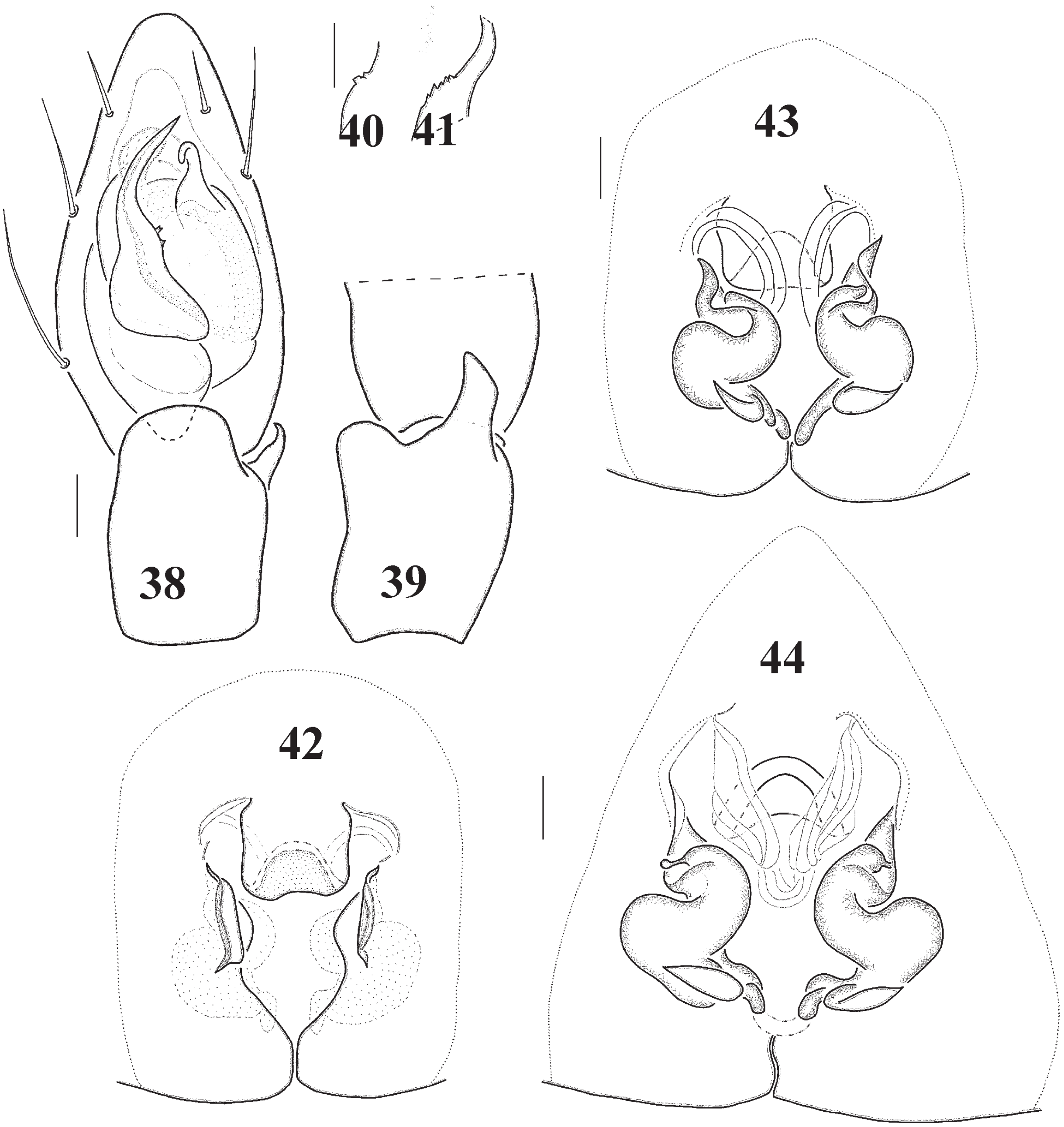
Length of palpal segments: femur 0.8–1.0 (1.0), patella 0.5, tibia 0.3–0.4 (0.4), tarsus 0.6–0.8 (0.7). Abdomen 3.2–4.0 (3.6) long, 2.2–2.5 (2.4) wide. Basal segment of anterior (inferior) spinnerets 0.6–0.7 (0.7) long.

Leg spination. I — femur: d 1–1 or 1 (1 of 5 specimens), pl 1. II — femur: d 1–1, pl 1–1 or 1 (1 of 5 specimens); metatarsus: v-pl 1. III — femur: d 1–1, pl 1–1, rl 1–1;



Figs 29–37. The copulatory organs of *Gnaphosa saurica* from the Crimea: 29 — male palp, ventral view; 30 — bulbus, ventral view; 31–33 — variants of embolus shape; 34, 36 — epigynes, ventral views; 35, 37 — epigynes, dorsal views.

Рис. 29–37. Копулятивные органы *Gnaphosa saurica* из Крыма: 29 — пальпа самца, вентрально; 30 — бульбус, вентрально; 31–33 — варианты строения эмболюса; 34, 36 — эпигины, вентрально; 35, 37 — эпигины, дорсально.



Figs 38–44. The copulatory organs of *Gnaphosa saurica* from Caucasus (38, 39, 42–44 — specimens from Abkhazia; 40, 41 — specimens from Azerbaijan): 38 — male palp, ventral view; 39 — retrolateral view; 40, 41 — embolar teeth variants; 42 — epigyne, ventral view; 43, 44 — epigynes, dorsal views (variants).

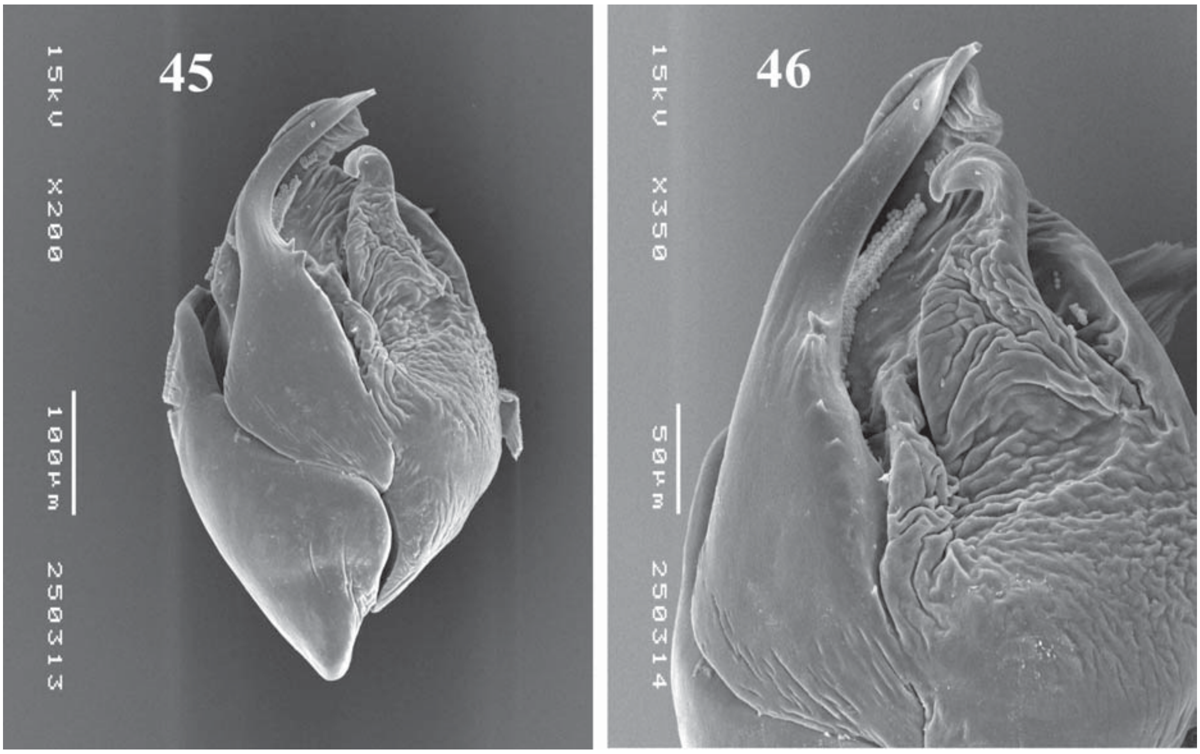
Рис. 38–44. Копулятивные органы *Gnaphosa saurica* с Кавказа (38, 39, 42–44 — экземпляры из Абхазии; 40, 41 — экземпляры из Азербайджана): 38 — пальпа самца, вентрально; 39 — пальпа самца, ретролатерально; 40, 41 — варианты зубцов на эмболюсе; 42 — эпигина, вентрально; 43, 44 — эпигины, дорсально (вариации).

patella: rl 1 or 0 (2 of 5 specimens); tibia: pl 1–1 or 1–1–1 (1 of 5 specimens), rl 1–1, v 2–2–2a; metatarsus: pl 1–2, rl 1–2, v 2–1–2a or 2–2a (1 of 5 specimens) or 1–2–2a (1 of 5 specimens) or 2–2–2a (1 of 5 specimens). IV — femur: d 1–1, pl 1–1 or 1 (2 of 5 specimens), rl 1; tibia: pl 1–1, rl 1–1–1, v 2–2–2a; metatarsus: pl 1–2 or 2–2 (2 of 5 specimens), rl 1–1–2, v 2–1–2a.

Coloration. As in males. Scutum absent.

Epigyne as in Figs 34–37, 42–44.

COMMENTS. There are a couple of interesting observations. (1) Ovtsharenko *et al*. [1992] recorded *G. dolosa* from two females (ZISP, examined) from Andreevka (Dnepropetrovsk Region), which according to my opinion are better assigned to *G. saurica* (see above under "Material"). Esyunin



Figs 45, 46. The bulbus of *Gnaphosa saurica* from the Crimea, ventral view.
Рис. 45, 46. Бульбус *Gnaphosa saurica* из Крыма, вентрально.

and Efimik [1996] recorded *G. saurica* from three females (PSU, not examined) from Botevo (Dnepropetrovsk Area). Thus, both records were made from the same Dnepropetrovsk region of Ukraine. (2) In the same work, Ovtsharenko *et al.* [1992] recorded *G. dolosa* from one male and five females from Sochi (Adler) and *G. jucunda* Thorell, 1875 from a single female also from Sochi (Khosta). Again, both records were made virtually from the same locality.

It seems unlikely that pairs of such closely related species occur together sympatrically. In other words, it cannot be excluded that the forms described as *G. dolosa, G. saurica* and *G. jucunda* are actually variants of one, polytypic species. Unfortunately, only the types of *G. saurica* have so far been re-examined by the author and they turned out to be identical to the specimens newly collected from the Crimea. Therefore, the Crimean species is here named *G. saurica*. The problem of an apparent synonymy of the three names mentioned above, as well as *G. barroisi* Simon, 1882 (the latter was synonymized with *G. dolosa* by Ovtsharenko *et al.* [1992], contra Levy [1995]), should be properly addressed in the future.

TYPE LOCALITY. Kazakhstan, East-Kazakhstan Area, Saur Mt. Range [Ovtsharenko *et al*., 1992].

DISTRIBUTION. According to the present revised data, *G. saurica* occurs in Kazakhstan, Russia (Orenburg Region), South Ukraine (the Crimea, Dnepropetrovsk Area, Donetsk Area), Georgia and Azerbaijan. *G. saurica* is a new species record for the Crimean fauna.

The range of the *dolosa-jucunda-saurica-barroisi* complex includes France, the Balkans, Crete, Romania, Turkey, Syria, Ukraine (the Crimea, Dnepropetrovsk Region, Donetsk Area), Russia (Chelyabinsk Area, Kalmykia, Krasnodar and Orenburg Regions), Georgia, Azerbaijan, Turkmenistan, Kazakhstan [Thorell, 1875ab; Herman, 1879; Charitonov, 1932; Tyshchenko, 1971; Ovtsharenko, 1982; Ovtsharenko, *et al*., 1992; Esyunin, Efimik, 1996; Mikhailov, 1997, 1998; Chatzaki, *et al*., 2002; Tuneva, Esyunin, 2002].

PHENOLOGY. ♂♂ — V–VII; ♀♀ — VI–VIII.

Gnaphosa jucunda Thorell, 1875

Gnaphosa jucunda Thorell, 1875a: 85 (♀) (the ♀ holotype in the Helsinki Zoological Museum, not examined).

Gnaphosa jucunda: Thorell, 1875b: 104 (♀); Ovtsharenko, *et al*., 1992: 19, figs 55–56 (illustrated ♀).

MATERIAL. No specimens identified as *G. jucunda* were available.

TYPE LOCALITY: Ukraine, the Crimea, c. 4 km SSW of Yalta, Oreanda (="Orianda") [Thorell, 1875ab].

DISTRIBUTION. Ukraine (the Crimea), Russia (Krasnodar Region) [Thorell, 1875ab; Ovtsharenko *et al*., 1992].

COMMENTS. It is likely that the species name *G. dolosa* is a junior synonym of *G. jucunda* (see above "Comments" under *G. saurica*).

The *rufula* group

Gnaphosa moesta Thorell, 1875
Figs 47–51.

Gnaphosa moesta Thorell, 1875a: 84 (♂) (the ♂ holotype in Naturhistoriska Riksmuseum, Stockholm, not examined).

Gnaphosa moesta: Thorell, 1875b: 99–100 (♂); Ovtsharenko, *et al*., 1992 (*pro parte*): 32, figs 107–110 (illustrated ♂; the ♀ was misidentified).

MATERIAL. UKRAINE: the Crimea, 2 ♀♀ (TNU), Sevastopol Distr., Mt. massif near Foros, 7.07.1997; 1 ♀ (TNU), same

locality, Sarych Cape, under stones, 8.07.1997; 3 ♂♂, 1 ♀ (TNU), same distr., Chernaya river canyon, *Juniperus excelsa* — silva rara, 23.05.2000, leg. O.V. Kukushkin; 2 ♂♂, 1 ♀ (TNU), Simferopol Distr., c. 3 km N of Krasnopeshcherskoe, under stones, 29.05.1998; 1 ♀ (TNU), Simferopol Distr., c. 2 km N of Pionerskoe, steppe, under stones, 9.06.1998; 1 ♂, 2 ♀♀ (TNU), same distr., c. 3 km NW Skvortsovo, neglected field, 10 pitfalls, 19.05−10.07.2002; 1 ♀ (TNU), same distr., Dolgorukovskaya Yaila Mt., N and NW slopes, meadow, under stones, 11.07.1998; 56 ♂♂, 36 ♀♀ (TNU), same distr., near Lozovoe, Stipeto-Festucetum artemidosum + *Amygdalus nana* + *Pinus pallasiana* plantation, 19 pitfalls, 18.04−26.08.2000; 17 ♂♂, 3 ♀♀ (TNU), Yalta Distr., near Nikita, Martyan Cape Reserve, Pineto-Quercetum (pubescentis) juniperoso (excelsae)-brachypodiosum, 10 pitfalls, 30.04−22.07.2000; 1 ♀ (TNU), Crimean State Nature Reserve, Babugan Yaila Mt. near Chuchel pass (1157 m a.s.l.), under stones, 14.06.2000; 1 ♀ (TNU), Yalta, Massandra Park, *Pistacia mutica* — silva rara, 10 pitfalls, 18−25.05.2000; 1 $ (TNU), s.p., 10 pitfalls, 25.08.−8.09.2000; 1 ♂ (TNU), same distr., near Nikita, Martyan Cape Reserve, Carpineto-Juniperetum (excelsae) ruscosum nudum, 5 pitfalls, 9−16.07.2000; 1 ♂ (TNU), s.p., Arbuteto-Juniperetum (excelsae) cistoso-achnatherosum, 13 pitfalls, 25.06−2.07.2000; 12 ♂♂, 7 ♀♀ (TNU), same distr., c. 1 km N of Nikita, neglected field, 10 pitfalls, 20.05−31.07.2000; 2 ♂♂, 3 ♀♀ (TNU), same distr., Nikitskaya Yaila (Skrinita), c. 1200 m a.s.l., *Asphodeline taurica, Stipa, Festuca,* 10 pitfalls, 12.06−17.08.2001; 1 ♂ (TNU), s.p., *Pinus pallasiana, Quercus petraea, Carpinus betulus, Acer*, 10 pitfalls, 3−14.07.2001.

COMPARATIVE MATERIAL of *G. opaca* Herman, 1879. UKRAINE: 1 ♂ (KVE; palp — in TNU), Dnepropetrovsk Region, Pyatikhatki Distr., 3–4 km N of Zheltoe, sunflower field, in cracks of soil, 25.05.1995, K.V. Evtushenko.

DIAGNOSIS. *G. moesta* is closely related to *G. opaca*, but its males can be distinguished from it by the peculiar shape of the embolic base, viz. (1) the strong prolateral, fan-like structure (Figs 48, 49) (poorly developed in *G. opaca* [see Ovtsharenko *et al*., 1992: fig. 103]), (2) the large retrolateral tubercle (Figs 48, 49) (absent in *G. opaca* [Ovtsharenko *et al*., 1992: fig. 103]), (3) the absence of a bulge at the proximal part of the embolus (Fig. 48) (present in *G. opaca* [Ovtsharenko *et al*., 1992: fig. 103]). The epigynes of *G. moesta* and *G. opaca* are quite similar, and I have been unable to distinguish any differences between the epigyne of *G. moesta* (Figs 50, 51) and that of *G. opaca* as shown by Ovtsharenko *et al*. [1992].

DESCRIPTION. MALE (n = 15). *Measurements.* Total length 6.0–8.2 (7.3); carapace 2.8–3.9 (3.5) long and 2.15–3.1 (2.7) wide. Diameters of the eyes and distances between them: AM 0.09–0.15 (0.11), AL 0.15–0.21 (0.17), PM 0.10–0.18 (0.14), PL 0.12–0.15 (0.14), AM-AM 0.06–0.10 (0.09), AM-AL 0.01–0.04 (0.02), PM-PM 0.03–0.09 (0.04), PM-PL 0.14–0.22 (0.19), AM-PM 0.12–0.18 (0.16), AL-PL 0.18–0.27 (0.23). Distance between anterior eyes and margin of clypeus: AM-clypeus 0.16–0.38 (0.26), AL-clypeus 0.09–0.27 (0.18). Length of leg segments:

	Femur	Patella + Tibia	Metatarsus	Tarsus	Total
Leg I	1.8-2.6 (2.3)	2.4-3.4 (3.0)	1.3-1.8 (1.6)	0.9-1.4 (1.2)	6.5-9.15 (8.3)
Leg II	1.8-2.4 (2.2)	2.2-3.0 (2.7)	1.3-1.8 (1.6)	1.0-1.4 (1.2)	6.3-8.4 (7.7)
Leg III	1.6-2.2 (2.0)	2.0-2.7 (2.4)	1.5-2.0 (1.8)	0.9-1.2 (1.1)	6.0-8.2 (7.3)
Leg IV	2.1-2.8 (2.6)	2.8-3.7 (3.3)	2.4-3.2 (2.8)	1.2-1.9 (1.4)	8.4-11.2 (10.2)

Length of palpal segments: femur 1.0–1.3 (1.2), patella 0.6–0.7 (0.7), tibia 0.3–0.5 (0.4), tarsus 1.1–1.4 (1.3). Abdomen: 3.0–4.6 (3.8) long, 1.8–2.6 (2.2) wide. Basal segment of anterior (inferior) spinnerets 0.7–1.0 (0.9) long.

Leg spination. I — femur: d 1–1, pl 1 or 1–1 (1 of 15 specimens) or 0 (1 of 15 specimens); tibia: pl 1–1 or 1 (5 of 15 specimens) or 0 (2 of 15 specimens), v 2–2–2a or 1–2–2a (3 of 15 specimens) or 2–2–1a (1 of 15 specimens) or 2a (1 of 15 specimens); metatarsus: v 2 or 1–2 (1 of 15 specimens) or 2–1 (1 of 15 specimens). II — femur: d 1–1 or 1–1–1 (1 of 15 specimens), pl 1–1 or 1 (1 of 15 specimens); tibia: pl 1–1 or 1–2 (3 of 15 specimens) or 1 (1 of 15 specimens) or 0 (1 of 15 specimens), v 2–2–2a or 2–2–1a (1 of 15 specimens) or 1–2–2a (1 of 15 specimens); metatarsus: pl 0 or 1 (4 of 15 specimens), v 2. III — femur: d 1–1 or 1–1–1 (1 of 15 specimens), pl 1–1, rl 1–1; patella: rl 1, pl 0 or 1 (4 of 15 specimens); tibia: d 1, pl 2–1–1, rl 2–1–1, v 2–2–2a; metatarsus: pl 1–2–2 or 1–1–2–2 (1 of 15 specimens), rl 1–2–2 or 1–1–2 (3 of 15 specimens) or 2–1–2 (1 of 15 specimens), v 2–2–2a or 2–1–2a (6 of 15 specimens) or 2–2 (1 of 15 specimens). IV — femur: d 1–1, pl 1–1 or 1 (1 of 15 specimens), rl 1–1 or 1–1–1 (1 of 15 specimens); patella: 0 or rl 1 (6 of 15 specimens); tibia: d 0 or 1 (6 of 15 specimens), pl 2–2 or 2–1–1–1 (2 of 15 specimens) or 3–1–1 (1 of 15 specimens), rl 2–1–1 or 2–2–1 (2 of 15 specimens), v 2–2–2a or 2–1–2–2a (1 of 15 specimens) or 2–2–1–2a (1 of 15 specimens); metatarsus: pl 1–2–2 or 1–1–2–2 (1 of 15 specimens) or 1–1–2 (1 of 15 specimens) or 1–2–2–1 (1 of 15 specimens), rl 1–2–2 or 1–1–2–1 (1 of 15 specimens) or 1–2–1–2 (1 of 15 specimens) or 1–2–3 (1 of 15 specimens), v 2–2–2a or 2–1–2a (1 of 15 specimens).

Coloration. Carapace, ocular area, chelicerae, sternum, labium, palpal endites and legs greyish yellow. Abdomen grey; book-lungs yellow. Scutum small, grey-brown.

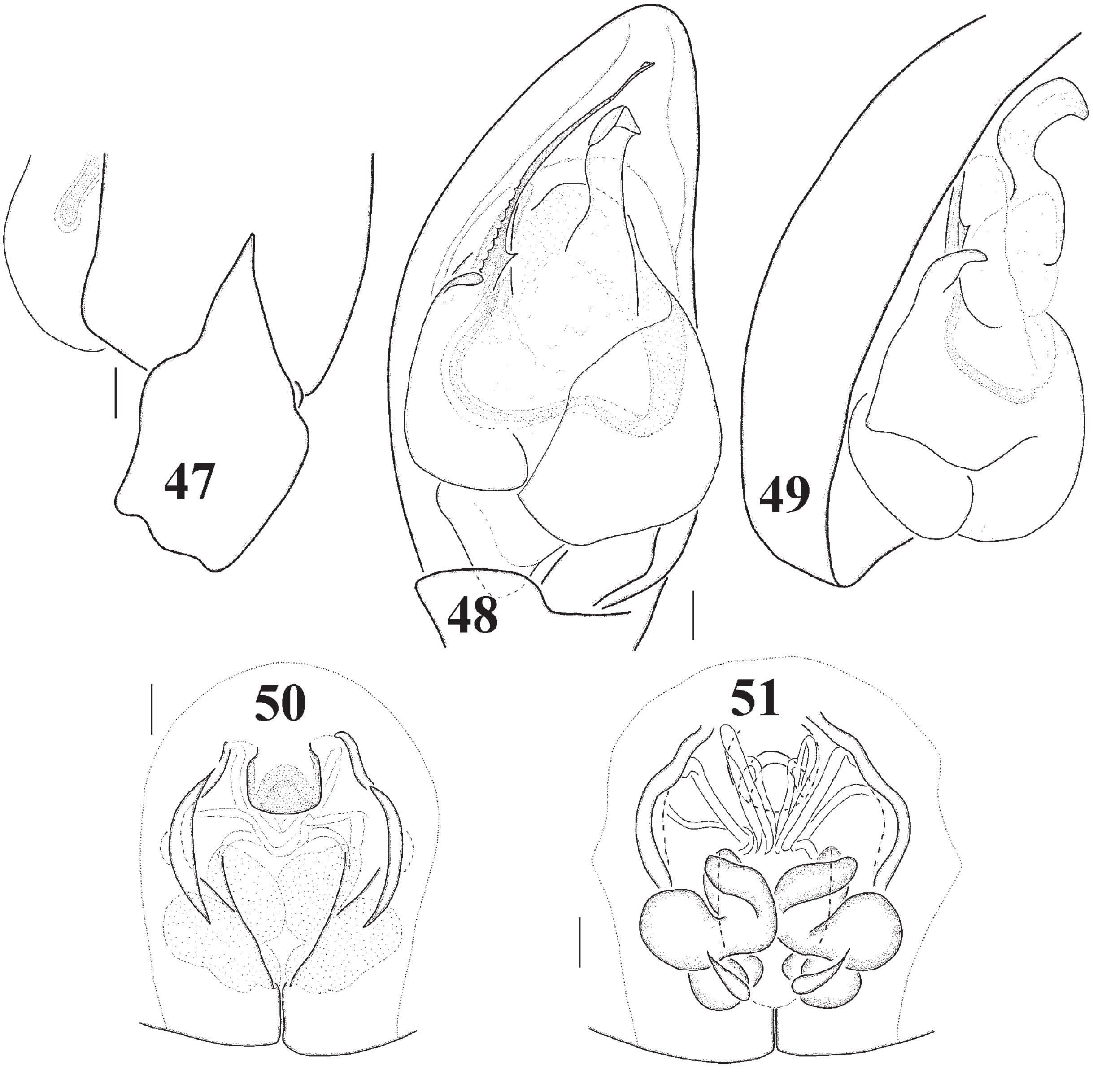
Palp as in Figs 47–49.

FEMALE (n = 15). *Measurements.* Total length 7.3–12.6 (9.5); carapace 3.2–4.8 (3.9) long and 2.4–3.5 (2.9) wide. Diameters of the eyes and distances between them: AM 0.09–0.15 (0.13), AL 0.16–0.21 (0.19), PM 0.14–0.18 (0.16), PL 0.12–0.18 (0.15), AM-AM 0.08–0.15 (0.1), AM-AL 0.02–0.04 (0.03), PM-PM 0.03–0.08 (0.06), PM-PL 0.18–0.28 (0.23), AM-PM 0.14–0.24 (0.18), AL-PL 0.22–0.36 (0.28). Distance between anterior eyes and margin of clypeus: AM-clypeus 0.18–0.32 (0.26), AL-clypeus 0.12–0.26 (0.19). Length of leg segments:

	Femur	Patella + Tibia	Metatarsus	Tarsus	Total
Leg I	2.0-2.8 (2.4)	2.6-3.6 (3.2)	1.3-1.9 (1.6)	1.0-1.4 (1.1)	6.8-9.4 (8.3)
Leg II	1.8-2.6 (2.2)	2.4-3.3 (2.8)	1.2-1.8 (1.5)	1.0-1.4 (1.1)	6.3-9.0 (7.7)
Leg III	1.6-2.4 (2.0)	2.0-2.8 (2.4)	1.4-2.2 (1.8)	0.9-1.4 (1.1)	6.0-8.6 (7.3)
Leg IV	2.3-3.1 (2.7)	3.0-4.0 (3.6)	2.4-3.4 (2.9)	1.0-1.6 (1.4)	8.8-12.0 (10.5)

Length of palpal segments: femur 0.9–1.2 (1.1), patella 0.6–0.8 (0.6), tibia 0.3–0.5 (0.4), tarsus 0.8–1.1 (0.9). Abdomen 3.4–8.1 (5.6) long, 2.5–4.4 (3.3) wide. Basal segment of anterior (inferior) spinnerets 0.7–1.0 (0.8) long.

Leg spination. I — femur: d 1–1, pl 1; tibia: v-pl 1a; metatarsus: v 2. II — femur: d 1–1, pl 1–1 (11 of 15 specimens)



Figs 47–51. The copulatory organs of *Gnaphosa moesta* from the Crimea: 47 — tibial apophysis, retrolateral view; 48 — male palp, ventral view; 49 — male palp, prolateral view; 50 — epigyne, ventral view; 51 — epigyne, dorsal view.

Рис. 47–51. Копулятивные органы *Gnaphosa moesta* из Крыма: 47 — отросток голени, ретролатерально; 48 — пальпа самца, вентрально; 49 — пальпа самца, пролатерально; 50 — эпигина, вентрально; 51 — эпигина, дорсально.

or 1 (4 of 15 specimens); tibia: v-pl 1a (9 of 15 specimens) or v 2a (2 of 15 specimens) or v 1–2a (2 of 15 specimens) or v-pl 1–1a (1 of 15 specimens) or v-rl 1a (1 of 15 specimens); metatarsus: v 2 (14 of 15 specimens) or v-pl 1 (1 of 15 specimens). III — femur: d 1–1 (12 of 15 specimens) or 1–1–1 (3 of 15 specimens), pl 1–1 (13 of 15 specimens) or 1 (2 of 15 specimens), rl 1–1; patella: rl 1 (12 of 15 specimens) or pl 1, rl 1 (3 of 15 specimens); tibia: d 1 (13 of 15 specimens) or 1–1 (1 of 15 specimens) or 0 (1 of 15 specimens), pl 2–1–1 (14 of 15 specimens) or 2–1–2 (1 of 15 specimens), rl 2–1–1 (12 of 15 specimens) or 1–1–1 (3 of 15 specimens), v 2–2–2a; metatarsus: pl 1–2–2, rl 1–2–2 (13 of 15 specimens) or 1–1–2 (1 of 15 specimens) or 2–2–2 (1 of 15 specimens), v 2–2–2a (10 of 15 specimens) or 2–1–2a (5 of 15 specimens). IV — femur: d 1–1, pl 1–1 (11 of 15 specimens) or 1 (4 of 15 specimens), rl 1–1 (9 of 15 specimens) or 1 (6 of 15 specimens); patella 0 (12 of 15 specimens) or rl 1 (3 of 15 specimens); tibia: d 1 (6 of 15 specimens) or 0 (9 of 15 specimens), pl 2–1–1, rl 2–1–1, v 2–2–2a; metatarsus: pl 1–2–2 (14 of 15 specimens) or 1–1–2–2 (1 of 15 specimens), rl 1–2–2 (13 of 15 specimens) or 1–2–1–2 (2 of 15 specimens), v 2–2–2a.

Coloration as in males. No scutum.

Epigyne as in Figs 50, 51.

TYPE LOCALITY. Ukraine, the Crimea, near Simferopol [Thorell, 1875a: 84; 1875b: 99–100].

DISTRIBUTION. Bulgaria, Hungary, Romania, Ukraine (the Crimea) [Thorell, 1875ab; Charitonov, 1932; Tyshchenko, 1971; Ovtsharenko, 1982; Ovtsharenko *et al*., 1992; Mikhailov, 1997; Deltshev, Blagoev, 2001; Kovblyuk, 2003].

COMMENTS. A female of another species from Dnepropetrovsk Region (Ukraine) was illustrated by Ovtsharenko *et al*. [1992: 32, figs 109–110] under the name of "*G. moesta*". These figures do not correspond to the epigynal structure of true *G. moesta* from the Crimea (the type locality).

Tuneva and Esyunin recorded and illustrated the "*G. moesta*" female from Orenburg Region (Russia) [Tuneva, Esyunin, 2002: 228, figs 20–21], and also mentioned that "*G. moesta* ... in our opinion, is closely related to *G. reikhardi* Ovtsharenko, Platnick et Song, 1992", but in reality *G. moesta* is closely related to *G. opaca*. Thus, the record of *G. moesta* from Russia seems to be a misidentification. Probably, the species the female of *G. moesta* sensu Ovtsharenko, *et al*. [1992] was recorded from Orenburg Region by Tuneva & Esyunin [2002], as well as from Dnepropetrovsk Region. It is another species without a square epigynal scapus (i.e. its length = its width) as in *G. moesta,* but with an elongated scapus (its length is twice as long as wide at the base).

PHENOLOGY. ♂♂ — IV–VII; ♀♀ — IV–IX.

The *lugubris* group

Gnaphosa taurica Thorell, 1875
Figs 52–57.

[Thorell, 1875a: 84 (descr. ♂); Thorell, 1875b: 98–99 (descr. ♂); Spassky, 1925: 33, table II, fig. 43 (descr. ♂♀, illustrated ♀); Tyshchenko, 1971: 92–94, fig. 187 (♂♀ in identification key; illustrated ♂); Ovtsharenko, Platnick et Song, 1992: 22–24, figs 63–64, 71–74 (illustrated ♂♀)]

MATERIAL. UKRAINE, Crimea: 3 ♀♀ (EMZ), Simferopol Distr., near Krasnolesye, Kosh-Kaya Mt., mountain meadow steppe, under stones, 18.06.1997; 1 ♀ (TNU), s.p., under stones, 21.06.1998, L. Trukhanovich; 2 ♀♀ (TNU), same distr., Dolgorukovskaya Yaila Mt., N and NW slopes, meadow, under stones, 11.07.1998; 3 ♂♂, 1 ♀ (TNU), same distr., near Lozovoe, terraced slope with plantation of *Pinus pallasiana,* 10 pitfalls, 14.05–26.07.2000; 22 ♂♂, 12 ♀♀ (TNU), same locality, Bayrakly Mt., Stipetum (capillatae) mixto-herbosum subass. Festucetum filipendulosum, 11 pitfalls, 18.04.–26.08.2000; 17 ♂♂, 14 ♀♀ (TNU), s.p., Stipeto-Festucetum artemidosum and *Amygdalus nana* + *Pinus pallasiana* plantations, 19 pitfalls, 18.04.–8.08.2000; 1 ♂ (EMZ), Sevastopol Distr., near Rodnoe (= Uppa), 12–13.06.1999, O.V. Kukushkin; 1 ♀ (TNU), Yalta Distr., near Nikita, on the neglected field, under stones, 18.09.1999; 3 ♀♀ (TNU), Crimean State Nature Reserve, yaila near Besedka Vetrov, 13.06.2000; 3 ♀♀ (TNU), same locality, Babugan Yaila, 1200 m a.s.l., under stones, 14.06.2000; 2 ♀♀ (TNU), same locality, near Asport cordon, mountin steppe, under stones, 28.06.2001; 1 ♀ (TNU), Yalta Distr., Nikitskaya Yaila (Scrinita), 1200 m a.s.l., *Zerna cappadocica* meadow, 9 pitfalls, 14–24.07.2001; 1 ♂, 3 ♀♀ (TNU), s.p., *Festuca* sp., *Rosa* sp., 9 pitfalls, 22.04.–6.08.2001.

DIAGNOSIS. *G. taurica* is closely related to *G. occidentalis* Simon, 1878 and *G. lugubris* (C. L. Koch, 1839), but its males are easily distinguishable from the two aforementioned and other *Gnaphosa* species by the specific shape of the median apophysis and the apophyses arising from the embolic base, combined with the bifurcated tibial apohysis (Figs 52–55). Females of *G. taurica* are characterized by the rounded epigynal hood and by the specific shape of the furrows at the base of the epigynal midpiece (Figs 56, 57).

DESCRIPTION. MALE (n = 15). *Measurements.* Total length 9.9–12.1 (10.8); carapace 4.5–5.4 (4.9) long and 3.5–4.2 (3.9) wide. Diameters of the eyes and distances between them: AM 0.14–0.16 (0.14), AL 0.18–0.24 (0.21), PM 0.14–0.26 (0.20), PL 0.15–0.21 (0.17), AM-AM 0.09–0.15 (0.13), AM-AL 0.04–0.08 (0.05), PM-PM 0.03–0.08 (0.05), PM-PL 0.24–0.32 (0.28), AM-PM 0.18–0.26 (0.22), AL-PL 0.26–0.39 (0.32). Distance between anterior eyes and margin of clypeus: AM-clypeus 0.32–0.40 (0.37), AL-clypeus 0.22–0.32 (0.27). Length of leg segments:

	Femur	Patella + Tibia	Metatarsus	Tarsus	Total
Leg I	3.2-3.6 (3.4)	4.0-4.8 (4.4)	2.1-2.5 (2.3)	1.6-1.8 (1.7)	10.8-12.8 (11.7)
Leg II	2.9-3.3 (3.0)	3.7-4.2 (3.9)	2.0-2.4 (2.2)	1.5-1.7 (1.6)	10.1-11.3 (10.8)
Leg III	2.5-2.9 (2.7)	3.0-3.6 (3.2)	2.0-2.6 (2.4)	1.1-1.5 (1.4)	9.0-10.6 (9.7)
Leg IV	3.0-3.8 (3.5)	3.9-4.9 (4.4)	3.0-3.8 (3.5)	1.5-1.9 (1.7)	11.4-14.2 (13.2)

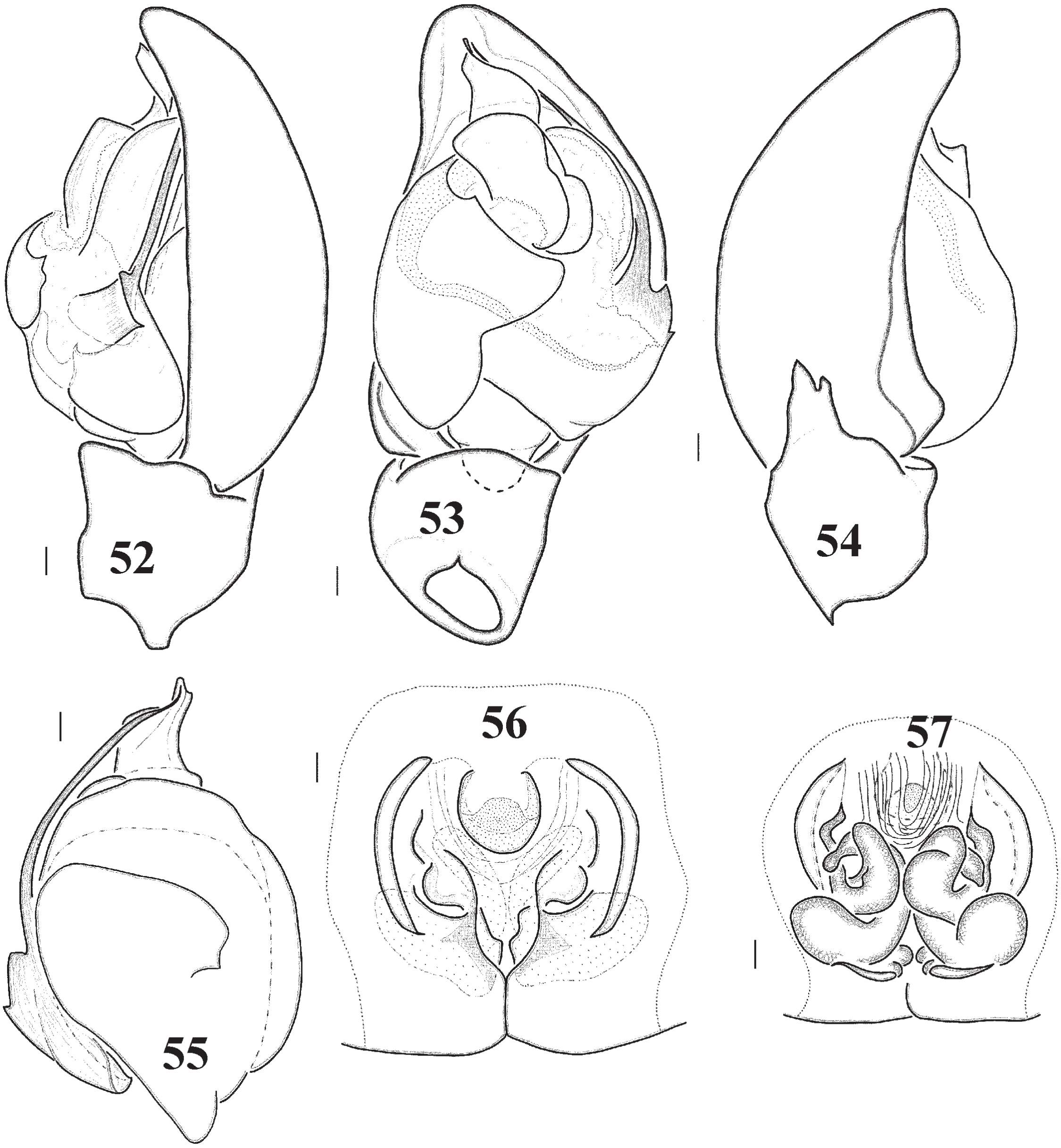
Length of palpal segments: femur 1.7–2.0 (1.8), patella 1.0, tibia 0.4–0.7 (0.6), tarsus 1.7–2.0 (1.8). Abdomen 5.3–6.2 (5.8) long, 2.6–4.3 (3.4) wide. Basal segment of anterior (inferior) spinnerets 0.9–1.1 (1.0) long.

Leg spination. I — femur: d 1–1, pl 1, rl 0 or 1 (1 of 15 specimens); tibia: 0 or v-pl 1a (6 of 15 specimens); metatarsus: v 2 or v-pl 1a (1 of 15 specimens). II — femur: d 1–1, pl 1–1; tibia: v-pl 1a or v 2a (1 of 15 specimens) or 0 (2 of 15 specimens); metatarsus: v 2. III — femur: d 1–1, pl 1–1, rl 1–1; patella: rl 1; tibia: d 1, pl 2–1–1 or 1–1–1 (6 of 15 specimens), rl 1–1–1 or 2–1–1 (2 of 15 specimens) or 1–1 (3 of 15 specimens), v 2–2–2a; metatarsus: d 0 or 1 (1 of 15 specimens), pl 1–2–2 or 1–1–2 (1 of 15 specimens) or 1–2–1–2–2 (1 of 15 specimens), rl 1–1–2 or 1–2–2 (1 of 15 specimens) or 1–2 (1 of 15 specimens) or 2–1–2–2 (1 of 15 specimens), v 2–2–2a or 2–1–2–2a (1 of 15 specimens). IV — femur: d 1–1, pl 1–1 or 1 (2 of 15 specimens) or 0 (1 of 15 specimens), rl 1–1 or 1 (2 of 15 specimens); patella: 0 or rl 1 (2 of 15 specimens); tibia: pl 2–1–1 or 1–1–1 (5 of 15 specimens) or 1 (1 of 15 specimens), rl 2–1–1 or 1–1–1 (2 of 15 specimens) or 2–1–2 (1 of 15 specimens), v 2–2–2a; metatarsus: pl 1–2–2 or 2–2–2 (1 of 15 specimens) or 1–2 (1 of 15 specimens), rl 1–2–2 or 1–2–2–1–1 (1 of 15 specimens) or 1–2 (1 of 15 specimens), v 2–2–2a or 2–1–2a (1 of 15 specimens).

Coloration. Carapace and legs light brown. Ocular area, chelicerae, sternum, labium and palpal endites dark brown. Abdomen grey; book-lungs yellow. Spinnerets grey-brown. Scutum small, greyish yellow.

Palp as in Figs 52–55.

FEMALE (n = 15). *Measurements.* Total length 9.2–16.2 (12.5); carapace 4.8–5.8 (5.3) long and 3.6–4.9 (4.1) wide. Diameters of the eyes and distances between them: AM 0.15–0.18 (0.16), AL 0.18–0.24 (0.22), PM 0.15–0.27 (0.21), PL 0.15–0.20 (0.18), AM-AM 0.10–0.20 (0.15), AM-AL 0.04–0.09 (0.06), PM-PM 0.02–0.10 (0.06), PM-PL 0.28–0.39 (0.33), AM-PM 0.21–0.28 (0.25), AL-PL 0.32–0.46 (0.39). Distance between anterior eyes and margin of clypeus: AM-clypeus 0.30–0.44 (0.36), AL-clypeus 0.21–0.30 (0.26). Length of leg segments:



Figs 52–57. The copulatory organs of *Gnaphosa taurica* from the Crimea: 52 — male palp, prolateral view; 53 — male palp, ventral view; 54 — male palp, retrolateral view; 55 — bulbus, dorsal view; 56 — epigyne, ventral view; 57 — epigyne, dorsal view.

Рис. 52–57. Копулятивные органы *Gnaphosa taurica* из Крыма: 52 — пальпа самца, пролатерально; 53 — пальпа самца, вентрально; 54 — пальпа самца, ретролатерально; 55 — бульбус, дорсально; 53 — эпигина, вентрально; 54 — эпигина, дорсально.

	Femur	Patella + Tibia	Metatarsus	Tarsus	Total
Leg I	2.4-3.5 (3.2)	3.2-4.8 (4.2)	1.6-2.2 (2.0)	1.2-1.6 (1.5)	10.2-12.0 (11.1)
Leg II	2.8-3.2 (3.0)	3.5-4.2 (3.8)	1.8-2.2 (2.0)	1.2-1.6 (1.4)	9.4-11.0 (10.3)
Leg III	2.4-2.8 (2.6)	3.0-3.5 (3.2)	2.0-2.5 (2.3)	1.2-1.5 (1.3)	8.6-10.3 (9.4)
Leg IV	3.2-3.8 (3.5)	4.2-5.0 (4.5)	3.0-3.7 (3.4)	1.5-1.8 (1.6)	12.0-14.2 (13.1)

Length of palpal segments: femur 1.4–1.8 (1.6), patella 0.8–1.0 (0.9), tibia 0.6–0.8 (0.6), tarsus 1.2–1.5 (1.3). Abdomen 4.9–10.6 (7.5) long, 3.0–6.6 (4.4) wide. Basal segment of anterior (inferior) spinnerets 0.8–1.0 (0.9) long.

Leg spination. I — femur: d 1–1 or 1 (1 of 15 specimens), pl 1 or 3 (1 of 15 specimens); tibia: v-pl 1a or 0 (5 of 15 specimens); metatarsus: v 2 or 0 (1 of 15 specimens). II — femur: d 1–1 or 1 (1 of 15 specimens), pl 1–1 or 1 (2 of 15 specimens) or 1–1–1 (1 of 15 specimens); tibia: v-pl 1a; metatarsus: v 2, pl 0 or 1 (1 of 15 specimens). III — femur: d 1–1, pl 1–1, rl 1–1; patella: rl 1; tibia: d 1 or 0 (1 of 15 specimens), pl 2–1–1 or 2–1–2 (1 of 15 specimens) or 1–1–1 (1 of 15 specimens), rl 1–1–1 (6 of 15 specimens)

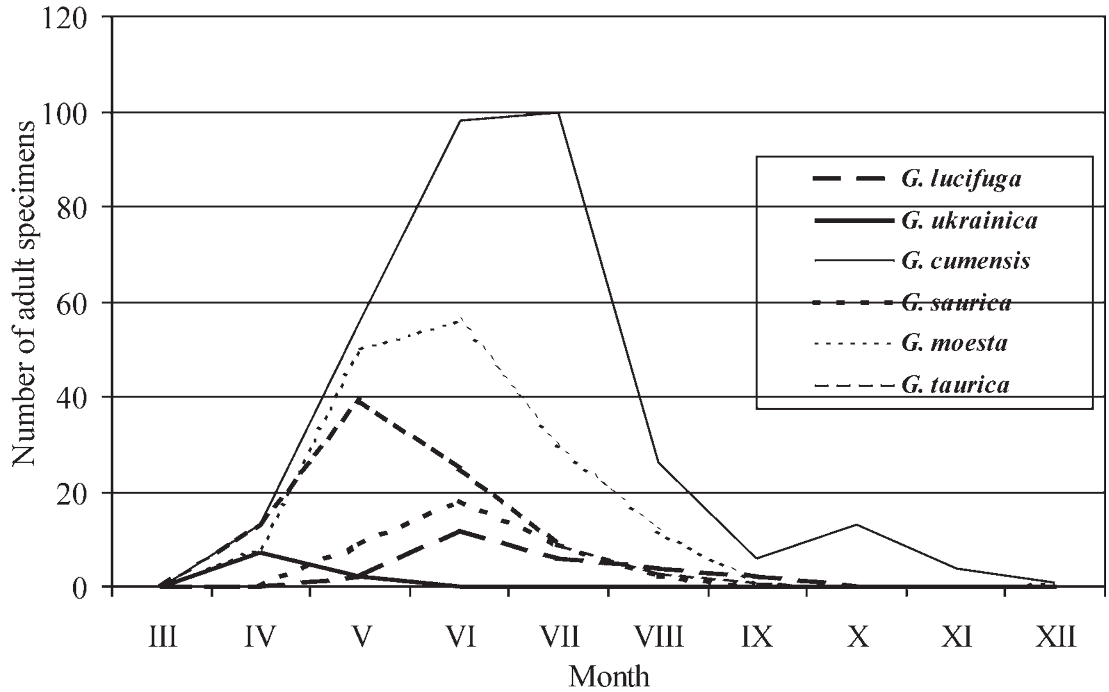


Fig. 58. Comparative phenology of *Gnaphosa* species in the Crimea, based on the specimens collected by the author.
Рис. 58. Сравнительна фенология пауков рода *Gnaphosa* в Крыму по материалам коллекции.

or 1–1 (5 of 15 specimens) or 2–1–1 (4 of 15 specimens), v 2–2–2a; metatarsus: pl 1–2–2 or 2–2–2 (1 of 15 specimens), rl 1–1–2 or 1–2–2 (3 of 15 specimens) or 2–1–2 (1 of 15 specimens), v 2–2–2a. IV — femur: d 1–1, pl 1 or 1–1 (7 of 15 specimens), rl 1–1 or 1 (5 of 15 specimens); patella: 0 or rl 1 (1 of 15 specimens); tibia: pl 2–1–1 or 1–1–1 (5 of 15 specimens) or 2–1–1–6 (1 of 15 specimens), rl 2–1–1 or 2–1–1–2 (1 of 15 specimens), v 2–2–2a or 2–2–1–2a (1 of 15 specimens) or 2–1–2–2a (1 of 15 specimens); metatarsus: pl 1–2–2 or 2–2–2 (2 of 15 specimens) or 0–2–2 (1 of 15 specimens) or 1–1–2–2 (1 of 15 specimens) or 1–2–3 (1 of 15 specimens), rl 1–2–2 or 0–2–2 (1 of 15 specimens) or 1–1–2 (1 of 15 specimens) or 1–1–2–2 (1 of 15 specimens) or 2–2–1–1 (1 of 15 specimens), v 2–2–2a.

Coloration as in males. No scutum.

Epigyne as in Figs 56, 57.

TYPE LOCALITY. Ukraine, the Crimea, near Simferopol [Thorell, 1875a: 84; 1875b: 98–99; Ovtsharenko *et al*., 1992: 22].

DISTRIBUTION. The steppe zone of Eurasia, from Bulgaria to China: South Ukraine (Donetsk Area, the Crimea), south of the European part of Russia (Bashkiria, Chelyabinsk Area, Orenburg Region, Rostov Area), the Caucasus, Kazakhstan, Kirghizia, NW China (Xinjang) [Thorell, 1875ab; Spassky, 1925, 1927; Charitonov, 1932; Ovtsharenko, 1982; Ovtsharenko *et al*., 1992; Esyunin, Efimik, 1996; Mikhailov, 1997; Deltshev, Blagoev, 2001; Marusik, Koponen, 2001; Prokopenko, 2002; Tuneva, Esyunin, 2002; Kovblyuk, 2003; Platnick, 2004].

PHENOLOGY. ♂♂ — IV–VI; ♀♀ — IV–IX.

Nomen dubium

Gnaphosa trebax Thorell, 1875

Gnaphosa trebax Thorell, 1875a: 85 (♀) (the ♀ holotype lost, not examined).

Gnaphosa trebax: Thorell, 1875b: 104–105 (♀).

TYPE LOCALITY. Ukraine, the Crimea, near Simferopol [Thorell, 1875a: 85; 1875b: 104–105].

DISTRIBUTION. The type locality only.

COMMENTS. The type of *G. trebax* was not found by Ovtsharenko *et al.* [1992: 5] or by Yu.M. Marusik [pers. comm.]. This species was never illustrated or re-described and therefore is a ***nomen dubium***.

Phenology

Many specimens were collected by pitfall traps, which were regularly checked for one year or longer. Thus, it was possible to analyze the seasonal dynamics of the activity of adults. The maximum number of individuals and peak of activity for the adults of *G. ukrainica* ocurred in April; for *G. taurica* in May; for *G. lucifuga, G. saurica* and *G. moesta* in June and for *G. cumensis* in July (Fig. 58). A second peak (in October) was observed only for *G. cumensis*. It is evident from Fig. 58 that all the species studied have only one generation per year, except possibly *G. cumensis*.

Table 4. Habitat distribution of the *Gnaphosa* species in the Crimea, based on the specimens collected by the author.
Таблица 4. Ландшафтное распространение пауков рода *Gnaphosa* в Крыму по материалам коллекции.

Landscape zones	*Gnaphosa* species					
	lucifuga	*ukrainica*	*cumensis*	*saurica*	*moesta*	*taurica*
Semi-desert steppe and saline lands	+	+	+	+		
Genuine steppe	+				+	
Submontane forest-steppe	+			+	+	+
Forests of the northern slope	+				+	+
Montain meadows and yaila steppe	+				+	+
Forests of the southern slope					+	+
Sub-Mediterranean vegetation of the southern coast					+	

Chorology

Traditionally, seven natural (landscape, altitudinal, physico-geographical) zones are described from the Crimean peninsula [Biodiversity…, 1999]. The distribution of the *Gnaphosa* species in these zones is shown in Table 4.

Addition

Post acceptance of this paper and thanks to the kindness of Drs Tamas Szuts, Christine Rollard and Herve Christophe, I received important additional material (two tubes with specimens of *Gnaphosa dolosa* Herman, 1879) from the Hungarian Natural History Museum, Budapest. The first tube contained a single ♀ and five labels: “1187/1900 Coll. Chyzer *Gnaphosa dolosa* O.H.”, “*Gnaphosa dolosa* O.H. Coll. Chyzer 1187”, “Relyerat-gebga VIII”, “Type material [in Russian – MK]”, “material from Hungarian Museum Natural History [in Russian — MK]”. The second tube contained three ♀♀ and two labels: “Araneae Mus. Nat. HUNG. *Gnaphosa dolosa* O.H. Orsova, det. Szombathy”, “Not type material [in Russian — MK]”. I suspect that the labels written in Russian were added by V.I. Ovtsharenko.

The type locality for *G. dolosa* is Orsova, Mehedinti, Romania [see Herman, 1879: 192; Ovtsharenko *et al*., 1992: 9]. Thus, I re-examined the topotypes of this species (vial # 2). The carapace length of these specimens varied between 3.4–4.6mm. When the epigynes of the females from the Hungarian Museum were compared with those identified as *G. saurica* [see above under “Material” of *G. saurica*], they were found to be identical. Therefore, *Gnaphosa dolosa* Herman, 1879 is a senior synonym of *G. saurica* Ovtsharenko, Platnick et Song, 1992, **syn.n.**, and all the aforementioned information regarding *G. saurica* should be assigned to *G. dolosa*.

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